

MANUFACTURE AND SALE OF FARM EQUIPMENT AND RELATED PRODUCTS

This special report is the twelfth of an annual series which began with Department Circular 212, covering the year 1920, prepared and published by the Bureau of Public Roads, Department of Agriculture. The reports for subsequent years have been prepared and issued by the Bureau of the Census.

A preliminary report for 1931 was released to the press under date of May 31, 1932. The receipt of additional returns and the final analysis of the data have necessitated some minor changes in the figures. This report covers the production and the sales of practically all classes of implements, tools, and other equipment used either exclusively or to a large extent on farms.

Equipment for use elsewhere than on farms.—Certain classes of commodities listed in this report, such as horse-drawn vehicles, engines, windmills, water pumps, domestic water systems, domestic electric lighting plants, etc., are not used exclusively by agriculturists, but the proportion used on farms is large enough to justify including them with the other products covered by this report.

Decreases in production.—The total value of farm equipment and related products manufactured in 1931 shows a decrease of 58 percent as compared with the production reported for 1930 and of 65 per cent as compared with that for 1929. Decreases in production appear for all groups for 1931, as follows: Plows and listers, 68 per cent; harrows, rollers, pulverizers, and stalk cutters, 58 per cent; planting and fertilizing machinery, 58 per cent; cultivators and weeder, 61 per cent; harvesting machinery, 68 per cent; haying machinery, 59 per cent; machines for preparing crops for market or for use, 42 per cent; tractors, 63 per cent; horse-drawn vehicles, 60 per cent; barn and barnyard equipment, 41 per cent; miscellaneous, 37 per cent.

Production compared with sales.—The total value of sales for 1931, \$248,979,-523, represents a decrease of 48 per cent as compared with \$480,448,231 reported for 1930 and of 56 per cent as compared with \$570,961,703 reported for 1929. The total value of production exceeded the total value of sales in 1929 by \$35,-660,109 and in 1930 by \$26,554,028, whereas in 1931 the total value of sales exceeded that of production by \$34,588,731.

Abandonment of attempt to collect data on export sales.—The practice of requesting farm-equipment manufacturers to report separately their sales for domestic consumption and their sales for export has been abandoned because of the impossibility of collecting complete data. This impossibility arose from the fact that many manufacturers sold all or a part of their output to wholesalers, jobbers, and commission merchants, some of whom did both an export and a domestic business, so that in many cases the manufacturer did not know whether his products were destined for export.

Export statistics compiled by the Bureau of Foreign and Domestic Commerce, Department of Commerce, from data supplied by the Bureau of Customs, Treasury Department, are published monthly under the title "Monthly Summary of Foreign Commerce of the United States" and annually under the title "Foreign Commerce and Navigation of the United States."

TABLE 1.—FARM EQUIPMENT AND RELATED PRODUCTS MANUFACTURED AND SOLD—VALUE, BY CLASSES: 1931, 1930, AND 1929

[In making use of the sales statistics it must be remembered that they refer only to sales by manufacturers and do not therefore cover sales by dealers to consumers. The figures include values of attachments and parts]

[Number of establishments reporting: 1931, 761; 1930, 773; 1929, 843]

CLASS	Year	Manufactured	Sold
Total.....	1931	\$214,390,792	\$248,979,523
	1930	1 507,002,259	1 480,448,231
	1929	606,621,812	570,961,703
Plows and listers.....	1931	12,084,033	13,778,483
	1930	37,830,174	37,176,586
	1929	42,365,129	39,370,831
Harrows, rollers, pulverizers, and stalk cutters.....	1931	5,867,798	6,362,103
	1930	13,814,780	13,043,491
	1929	10,813,081	15,844,601
Planting and fertilizing machinery.....	1931	10,862,052	10,886,064
	1930	26,087,161	23,343,796
	1929	31,145,092	28,501,288
Cultivators and weeders.....	1931	8,595,294	10,726,330
	1930	1 21,862,105	1 19,896,356
	1929	22,856,855	21,662,510
Harvesting machinery.....	1931	19,955,370	25,288,710
	1930	62,145,315	53,802,536
	1929	87,712,968	74,235,938
Haying machinery.....	1931	7,068,582	7,737,719
	1930	17,186,426	15,537,050
	1929	18,711,607	19,097,910
Machines for preparing crops for market or for use.....	1931	12,048,266	13,759,856
	1930	20,760,106	22,023,810
	1929	30,103,384	27,968,411
Tractors.....	1931	75,572,447	98,129,434
	1930	205,657,133	190,535,716
	1929	227,632,527	214,720,854
Horse-drawn vehicles.....	1931	1,977,264	1,897,177
	1930	4,947,513	4,842,244
	1929	1 8,813,307	1 8,774,430
Barn and barnyard equipment.....	1931	5,009,785	4,982,466
	1930	8,518,669	8,402,116
	1929	10,269,150	10,056,857
Miscellaneous.....	1931	55,329,901	55,431,181
	1930	88,162,677	89,844,530
	1929	110,198,712	110,711,073

¹ Revised.

² Includes values of attachments for converting wheeled horse-drawn vehicles into tracklaying vehicles, for use principally on sugarcane plantations.

TABLE 2.—FARM EQUIPMENT AND RELATED PRODUCTS MANUFACTURED—NUMBER AND VALUE OF MACHINES AND IMPLEMENTS, BY CLASS AND KIND: 1931, 1930, AND 1929

[This table covers only those items of farm equipment and related products in regard to which comparable figures can be shown either for 1930 or for 1929. Production and sales statistics for 1931 for all items are given in Tables 3-13]

KIND	NUMBER			VALUE		
	1931	1930	1929	1931	1930	1929
Plows and listers:						
Moldboard plows—						
Horse—						
Walking, 1-horse.....	75,561	168,212	242,186	\$365,267	\$959,055	\$1,420,854
Walking, 2-horse and larger.....	54,784	172,790	204,545	665,872	2,128,638	2,045,143
Sulky—						
1-bottom.....	3,805	14,274	22,817	179,033	791,860	1,194,657
2-bottom.....	1,529	17,191	30,503	128,756	1,565,476	2,767,983
Tractor—						
1-bottom.....	2,335	8,077	5,115	53,756	226,990	181,214
2-bottom.....	17,613	58,408	61,698	1,208,898	3,833,290	3,954,776
3-bottom.....	4,885	22,268	38,106	502,181	2,412,593	4,027,637
4-bottom.....	1,476	15,198	16,837	218,840	2,348,396	2,648,712
5-bottom and larger.....	518	3,720	1,141	106,642	765,717	259,003
Two-way.....	11,095	20,399	30,765	285,420	466,343	841,979
Disk plows—						
Horse—						
Single-disk.....	154	1,658	2,856	7,667	71,902	136,089
2-disk.....	62	1,581	3,225	3,990	115,914	259,101
3-disk and larger.....	65	268	1,034	4,127	29,957	105,962
Tractor—						
2-disk.....	166	2,596	3,603	24,925	234,478	356,323
3-disk.....	725	3,081	2,505	100,726	367,610	257,878
4-disk.....	668	2,307	1,945	108,668	362,087	242,755
5-disk and larger.....	481	5,309	8,344	79,615	1,101,948	1,289,491
1-way disk tillers.....	7,085	21,306	22,992	1,243,384	3,079,322	4,617,201
Listers (middle busters)—						
Horse, 1-bottom.....	6,859	36,082	37,255	129,825	750,090	912,659
Tractor—						
2-bottom.....	3,249	15,115	(1)	234,580	1,090,448	(1)
3-bottom.....	1,431	3,444	2,966	203,997	498,148	417,381
Subsoilers.....	384	991	1,388	49,741	122,468	176,118
Plowstocks.....	56,907	114,840	196,806	86,133	185,314	322,954
Harrows, rollers, pulverizers, stalk cutters:						
Harrows—						
1-horse (spike-tooth and spring-tooth).....	16,878	27,916	30,885	68,615	134,869	161,749
Spike-tooth harrow sections.....	102,838	275,677	339,192	727,131	1,907,405	2,306,705
Spring-tooth harrow sections.....						
Disk harrows, horse.....	44,018	104,159	126,306	491,198	1,175,388	1,445,105
Disk harrows, tractor.....	20,094	61,795	81,402	795,749	2,761,243	3,481,933
Smooth land rollers.....	20,799	51,969	57,447	2,273,636	4,615,055	5,230,088
Soil pulverizers and packers.....	959	1,271	1,223	31,127	44,750	44,287
Stalk cutters.....	5,892	19,205	18,831	308,179	1,041,302	879,747
Planting and fertilizing machinery:	2,297	11,487	11,696	86,065	414,616	439,361
Corn planters—						
1-row.....	8,213	11,348	19,385	183,038	169,984	335,235
2-row.....	27,713	53,247	55,393	1,544,266	3,043,916	3,069,606
Cotton planters, 1-row.....	3,288	10,068	20,873	22,225	61,484	111,647
Combination corn and cotton planters—						
1-row.....	10,952	79,195	80,993	203,871	1,530,326	1,651,751
2-row.....	4,431	16,243	12,966	304,506	1,140,511	913,810
Potato planters, except hand.....	4,130	4,294	8,540	361,158	387,460	573,402
Transplanters, except hand.....	3,595	2,456	4,629	371,170	208,277	304,407
Combined listers and drills.....	2,031	15,323	7,004	140,310	950,781	604,057
Beet drills.....	826	1,802	1,626	63,600	125,049	109,616
Grain drills—						
Horse.....	8,893	34,133	51,113	963,881	4,276,732	6,675,828
Tractor.....	2,487	12,663	19,295	455,548	2,203,522	3,359,379
Broadcast seeders—						
Wheel, horse-drawn.....	1,787	3,592	3,900	85,678	186,420	197,365
End-gate.....	8,681	21,398	10,181	145,483	280,819	192,385
Hand (wheelbarrow and other).....	40,855	47,664	(1)	65,126	78,715	(1)
Fertilizer distributors, horse.....	21,066	77,917	92,741	151,919	618,372	719,744
Lime spreaders.....	3,226	7,802	12,265	129,258	278,453	345,881
Manure spreaders.....	19,707	47,722	61,000	2,101,444	5,525,568	7,189,588

See footnotes at end of table.

TABLE 2.—FARM EQUIPMENT AND RELATED PRODUCTS MANUFACTURED—NUMBER AND VALUE OF MACHINES AND IMPLEMENTS, BY CLASS AND KIND: 1931, 1930, AND 1929—Continued

KIND	NUMBER			VALUE		
	1931	1930	1929	1931	1930	1929
Cultivators and weeders:						
Cultivators—						
Horse-drawn, except disk—						
1-horse.....	57,999	156,134	202,755	\$295,420	\$756,475	\$978,817
1-row, walking.....	8,822	41,365	51,694	253,042	1,273,001	1,667,293
1-row, riding.....	40,602	98,443	115,254	1,462,085	3,645,215	4,238,834
2-row.....	10,405	44,659	54,505	874,308	3,683,562	4,486,705
Tractor-drawn.....	15,631	56,250	34,634	1,794,161	5,154,203	2,902,575
Disk cultivators.....	994	6,177	6,967	68,242	287,628	305,982
Beet cultivators.....	4,201	5,835	4,496	184,356	280,269	231,021
Hand cultivators (wheeled hoes).....	160,360	171,213	153,434	428,806	500,277	459,316
Rotary hoes.....	7,352	12,190	20,182	340,982	827,074	1,257,138
Weeders.....	14,609	19,204	25,221	212,519	349,873	448,765
Harvesting machinery:						
Grain binders (including rice binders).....	15,356	46,166	65,069	2,451,129	7,787,418	10,661,112
Combines (harvester-threshers).....	5,907	24,409	36,957	9,194,530	32,738,562	50,683,541
Corn picker-huskers.....	3,243	12,352	8,620	1,461,340	4,771,785	2,640,592
Potato-digging machines, cle- vator type.....	3,906	7,582	9,400	326,311	698,504	752,784
Potato diggers, plow type.....	794	2,473	3,367	8,265	24,914	36,738
Pea and bean harvesters.....	1,688	2,380	2,645	130,917	194,336	125,966
Beet lifters.....	823	2,601	1,800	41,787	139,093	92,937
Haying machinery:						
Mowers.....	43,312	117,601	126,360	2,377,633	6,466,124	7,050,062
Rakes, sulky (dump).....	17,786	45,919	58,134	514,121	1,409,847	1,783,862
Rakes, sweep.....	7,118	17,151	18,273	260,461	679,501	706,691
Loaders.....	10,042	28,222	24,920	827,690	2,277,008	1,991,338
Stackers.....	2,369	5,092	6,276	190,096	374,880	528,056
Machines for preparing crops for market or for use:						
Grain threshers (steel)—						
Width of rear, 46 inches and under.....	3,231	7,572	12,180	2,404,291	5,850,632	10,515,336
Width of rear, 47 inches and over.....	557	922	1,378	606,887	1,174,294	1,669,379
Pea and bean threshers.....	132	251	260	100,942	238,329	296,404
Peanut threshers (pickers).....	365	204	498	158,357	86,425	212,047
Ensilage cutters (silo fillers).....	3,156	6,749	8,065	597,944	1,393,591	1,694,559
Fodder cutters.....	1,967	3,062	3,465	39,039	60,011	78,613
Corn shellers, hand.....	14,759	29,600	34,928	120,703	226,842	339,001
Corn shellers, power—						
Spring (2, 4, 6, and 8 hole).....	1,042	1,455	3,298	149,588	187,326	445,365
Cylinder.....	1,052	1,453	2,152	269,697	483,183	768,243
Corn huskers and shredders.....	631	599	972	293,572	265,645	460,232
Hay presses—						
Horse.....	316	999	1,288	43,377	154,872	202,362
Other power.....	1,311	2,089	2,172	544,851	910,482	903,992
Feed grinders and crushers—						
Hand.....	16,373	31,338	48,486	46,473	77,572	130,152
Power.....	17,124	25,692	53,106	714,398	1,162,901	3,064,567
Hammer mills.....	11,041	12,534	(¹)	2,086,421	1,655,703	(¹)
Grain cleaners and graders (for small grain only).....	3,642	9,125	11,635	146,566	446,971	645,666
Potato sorters and graders.....	1,528	2,088	1,972	78,488	102,697	111,879
Cider mills and fruit presses.....	17,356	22,464	33,137	185,890	160,014	285,118
Tractors:						
Wheeled type.....	61,940	176,075	195,980	42,601,471	123,291,346	141,653,219
Tracklaying type, all sizes.....	7,089	20,222	27,101	13,316,457	48,242,010	53,601,599
Garden tractors.....	2,675	6,161	5,895	589,731	1,102,060	907,755
Horse-drawn vehicles:						
Wagons, farm.....	10,316	24,243	40,687	754,742	2,073,301	3,789,496
Trucks, farm.....	16,043	39,740	60,969	623,284	1,584,637	2,518,180
Buggies.....	491	1,462	2,589	39,552	138,294	221,907
Barn and barnyard equipment:						
Overhead feed and litter car- riers (box and gearing only).....	3,120	7,823	10,010	110,329	281,988	356,642
Hay carriers.....	21,559	44,222	60,477	182,393	380,847	561,865
Track for carriers..... feet.....	1,059,852	2,079,652	2,922,660	184,084	360,720	515,217
Hayforks (harpoon, grapple, etc.).....	27,003	46,596	61,969	74,119	122,290	173,766
Hay slings.....	23,286	38,361	51,338	52,726	95,971	141,154
Stanchions.....	225,024	415,075	479,019	655,274	1,251,622	1,407,910
Manger partitions and fittings.....	10,773	19,675	27,940	24,044	50,210	69,463

See footnotes at end of table.

TABLE 2.—FARM EQUIPMENT AND RELATED PRODUCTS MANUFACTURED—NUMBER AND VALUE OF MACHINES AND IMPLEMENTS, BY CLASS AND KIND: 1931, 1930 AND 1929—Continued

(See note at head of this table)

KIND	NUMBER			VALUE		
	1931	1930	1929	1931	1930	1929
Barn and barnyard equipment—Continued.						
Stalls and fittings (not including stanchions, etc.)	93, 252	165, 995	227, 254	\$509, 772	\$1, 086, 663	\$1, 378, 386
Hog troughs	330, 121	258, 846	282, 114	152, 817	171, 341	250, 005
Stock tanks	77, 461	107, 967	102, 494	767, 667	1, 237, 596	1, 141, 394
Stock-watering bowls and fountains	39, 368	47, 475	52, 303	190, 020	339, 405	408, 708
Individual drinking cups	87, 577	162, 355	206, 229	216, 425	411, 506	536, 933
Stock feeders	15, 116	18, 520	18, 023	388, 685	446, 764	398, 625
Miscellaneous:						
Beekkeepers' supplies				859, 813	1, 588, 070	2, 170, 901
Cornercibs, portable	23, 621	27, 474	21, 660	168, 461	251, 227	268, 149
Grainbins, portable	5, 603	7, 864	10, 656	422, 353	707, 772	917, 106
Dairy machinery—						
Milking machines (complete units)	14, 896	16, 724	24, 092	1, 354, 562	1, 468, 194	1, 778, 210
Cream separators, hand	64, 426	105, 553	172, 187	2, 372, 359	4, 708, 651	7, 695, 511
Elevators, farm (portable)	1, 360	4, 865	9, 536	234, 620	924, 509	1, 589, 363
Elevators, farm (stationary)	412	1, 196	2, 380	122, 520	239, 686	380, 259
Engines, internal-combustion, under 20 horsepower	38, 072	92, 948	146, 690	2, 478, 681	5, 387, 512	9, 133, 782
Forks, hoes, rakes, shovels, and spades						
Gates, farm	128, 510	182, 540	202, 103	8, 047, 377	10, 427, 140	13, 161, 088
Lawn mowers—						
Hand	714, 821	998, 760	1, 116, 135	4, 102, 755	6, 663, 433	7, 310, 867
Power (including horse-drawn)	7, 499	14, 340	18, 406	1, 462, 245	2, 025, 503	2, 629, 782
Lighting plants, electric, residence, etc. (complete units)	6, 884	17, 092	30, 118	1, 523, 061	3, 872, 506	7, 830, 535
Lightning rod	2, 989, 863	6, 552, 294	9, 608, 123	443, 927	858, 851	1, 232, 110
Poultry-farm equipment—						
Brooders	147, 147	275, 006	232, 648	1, 638, 972	3, 732, 808	2, 660, 352
Incubators—						
Lamp type (1,000-egg and smaller)	28, 978	63, 825	96, 224	463, 850	1, 061, 153	1, 515, 129
Commercial type (over 1,000-egg), total egg capacity	16, 087, 060	41, 358, 496	48, 183, 500	2, 012, 140	4, 720, 920	5, 441, 693
Water systems, pneumatic (domestic)	95, 913	117, 047	139, 768	5, 729, 603	7, 654, 042	9, 007, 509
Pumps, water—						
Hand	332, 943	465, 943	544, 503	1, 156, 632	1, 852, 179	2, 098, 324
Windmill	50, 976	85, 379	91, 396	426, 581	658, 864	668, 356
Pump jacks	24, 969	38, 502	42, 236	222, 576	332, 602	353, 812
Spraying outfits, complete—						
Hand (with tank, barrel, knapsack, etc.)	147, 827	287, 755	272, 719	536, 089	752, 507	1, 083, 370
Power (not including engine)	5, 055	12, 782	11, 324	1, 612, 629	2, 831, 735	2, 469, 287
Spray pumps, power (not included above)	2, 297	3, 076	3, 043	146, 875	251, 492	229, 499
Push carts and hand trucks	15, 515	24, 713	36, 401	116, 705	211, 757	390, 090
Silos	3, 069	5, 293	5, 516	1, 245, 834	2, 235, 840	2, 292, 318
Trucks, tongue	9, 464	25, 272	29, 097	83, 122	264, 694	336, 981
Wheelbarrows—						
Wooden	73, 784	150, 319	125, 298	317, 158	641, 067	610, 728
Steel (tubular)	159, 987	190, 863	322, 831	636, 903	766, 963	1, 297, 455
Windmills	35, 406	68, 197	96, 474	1, 211, 534	2, 555, 219	4, 068, 411
Windmill towers	11, 257	25, 864	35, 092	440, 362	998, 403	1, 347, 511
Wood-sawing machines, circular	4, 996	5, 587	10, 836	73, 978	101, 395	188, 504

¹ Data omitted to avoid disclosing approximations of data for individual establishments.² Revised.³ Data for rice binders included in figure for "Other harvesting machinery" to avoid disclosing approximations of data for individual establishments.⁴ Not called for on schedule.⁵ Includes data for hydraulic presses used in factories.⁶ Cider mills only.⁷ Data for power separators included to avoid disclosing approximations of data for individual establishments.⁸ The values of some of the sprayers include the values of built-in engines.⁹ Includes data for some wheelbarrows with wooden handles and some not tubular.

TABLE 3.—PLOWS AND LISTERS MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$12,084,033		\$13,778,483
Plows and listers:					
Moldboard plows—					
Horse—					
Walking, 1-horse.....	43	75,561	365,267	88,967	450,277
Walking, 2-horse and larger.....	46	54,784	665,872	72,234	883,542
Sulky—					
1-bottom.....	20	3,805	179,033	4,218	209,160
2-bottom.....	14	1,529	128,756	2,525	213,352
Tractor—					
1-bottom.....	11	2,335	53,756	2,149	69,997
2-bottom.....	18	17,613	1,208,898	23,231	1,557,089
3-bottom.....	14	4,885	502,181	6,085	621,711
4-bottom.....	10	1,476	218,846	1,400	217,158
5-bottom and larger.....	8	518	106,642	403	84,704
Two-way.....	11	11,095	285,426	11,506	311,272
Disk plows—					
Horse—					
Single-disk.....	7	154	7,667	255	11,861
2-disk.....	13	62	3,990	304	19,533
3-disk and larger.....	11	65	4,127	84	6,730
Tractor—					
2-disk.....	11	166	24,925	625	66,306
3-disk.....	12	725	100,726	673	92,949
4-disk.....	10	668	108,668	603	100,492
5-disk and larger.....	11	481	79,615	572	95,381
One-way disk tillers.....	12	7,085	1,243,384	7,019	1,231,811
Listers (middle busters)—					
Horse, 1-bottom.....	21	6,859	129,825	6,535	117,904
Tractor—					
2-bottom.....	8	3,249	234,580	4,285	272,511
3-bottom.....	12	1,431	203,997	1,566	225,142
Subsoilers.....	7	384	49,741	577	65,775
Other plows and listers ¹	36	8,493	172,890	8,843	263,073
Plowstocks.....	14	56,907	86,133	54,120	83,170
Steel plow shapes or shares.....	10		1,292,061		1,294,474
Attachments and parts.....	64		4,627,097		5,193,109

¹ Gang, garden, and new-ground plows, brush and middle breakers, furrowers, hillers, ridgers, row markers, etc. Data for moldboard sulky 3-bottom plows and for horse-drawn 2-bottom listers are included in the figures for this item to avoid disclosing approximations of data for individual establishments.

TABLE 4.—HARROWS, ROLLERS, PULVERIZERS, AND STALK CUTTERS MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$5,867,798		\$6,362,103
Harrows:					
1-horse (spike-tooth and spring-tooth).....	12	16,578	68,615	16,249	68,449
Spike-tooth harrow sections.....	39	102,838	727,131	119,913	849,014
Spring-tooth harrows sections.....	23	44,018	491,198	55,344	612,114
Horse-drawn disk harrows.....	32	20,094	795,749	23,934	941,478
Tractor-drawn disk harrows.....	29	26,759	2,273,636	26,841	2,279,046
Smooth land rollers.....	3	959	31,127	964	31,494
Soil pulverizers and packers.....	21	5,692	308,179	7,222	376,847
Stalk cutters.....	21	2,297	86,065	1,415	55,741
Other harrows, rollers, etc. ¹	17	2,645	136,419	2,660	109,047
Attachments and parts.....	50		949,679		1,038,873

¹ Drawbar, listed-corn, rotary, and smoothing harrows, combined roller and harrow, etc.

TABLE 5.—PLANTING AND FERTILIZING MACHINERY MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$10,862,052		\$10,886,064
Corn planters:					
Horse—					
1-row.....	18	8,213	183,038	7,722	141,919
2-row.....	21	27,713	1,544,266	30,337	1,650,612
Other ¹	11	12,395	310,580	8,509	306,314
Combination corn and cotton planters:	10	3,288	22,225	2,844	16,702
1-row.....	14	10,952	203,871	13,701	263,419
2-row.....	13	4,431	304,506	3,899	272,269
Potato planters (except hand).....	11	4,130	361,158	5,175	442,916
Transplanters (except hand).....	8	3,595	371,170	2,455	241,410
Combined listers and drills ²	8	2,031	140,310	3,988	231,407
Beet drills.....	6	826	63,000	832	60,198
Grain drills, horse.....	19	8,893	963,881	10,682	1,161,785
Grain drills, tractor.....	11	2,487	455,548	3,138	499,566
Broadcast seeders:					
Wheel, horse.....	9	1,787	85,678	2,403	107,892
End-gate.....	5	8,081	145,483	9,024	149,199
Hand (wheelbarrow and other).....	5	40,855	65,126	41,453	63,303
Fertilizer distributors:					
Horse or tractor-drawn.....	26	21,096	151,919	19,102	140,427
Hand, wheeled type.....	6	12,148	72,571	11,945	70,671
Lime spreaders.....	16	3,226	129,258	3,595	140,332
Manure spreaders.....	19	19,707	2,101,444	16,079	1,850,773
Other planting and fertilizing machinery ³	13	17,860	530,658	19,523	514,556
Attachments and parts.....	54		2,649,762		2,593,062

¹ Hand and 3, 4, and 5-row corn planters.² Figures for 1 and 2 row combined to avoid disclosing approximations of data for individual establishments.³ Beet, bean, and peanut planters, alfalfa seeders, hand transplanters, 4-row combination corn and cotton planters, top dressers, etc. Data for garden or hand drills are included in the figures for this item to avoid disclosing approximations of data for individual establishments.

TABLE 6.—CULTIVATORS AND WEEDERS MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$8,595,294		\$10,726,330
Cultivators:					
Horse-drawn, except disk—					
1-horse.....	22	57,999	295,420	70,098	337,904
1-row, walking.....	24	8,822	253,042	10,585	304,164
1-row, riding.....	30	40,502	1,462,085	44,684	1,624,003
2-row.....	27	10,405	874,308	13,350	1,090,860
Tractor-drawn.....	21	15,631	1,794,161	25,594	2,758,829
Disk cultivators.....	15	994	68,242	2,600	136,657
Beet cultivators.....	11	4,201	184,356	3,531	162,136
Hand cultivators (wheeled hoes).....	22	160,560	428,806	150,372	403,070
Rotary hoes.....	15	7,852	340,982	8,087	361,930
Weeders.....	27	14,689	212,519	14,671	198,507
Other cultivators and weeders ¹	24	12,261	545,064	12,427	477,150
Attachments and parts.....	56		2,136,309		2,872,120

¹ Alfalfa, fallow, field, onion, 3-row, and lister cultivators, grape and horsehoes, corrugators, cotton scrapers, mulchers, etc.

TABLE 7.—HARVESTING MACHINERY MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$19,955,370		\$25,238,710
Grain binders (including rice binders).....	6	15,356	2,451,129	21,675	3,405,240
Combines (harvester-threshers) ¹	12	5,907	9,194,530	8,172	12,465,751
Corn picker-huskers.....	5	3,243	1,461,340	2,134	949,467
Potato-digging machines (elevator type).....	12	3,906	326,311	4,950	421,579
Potato diggers (plow type).....	9	794	8,265	1,398	16,238
Pea and bean harvesters.....	16	1,688	130,917	1,285	114,224
Beet lifters.....	9	823	41,787	796	41,935
Other harvesting machinery ²	18	7,959	1,270,266	9,467	1,390,609
Attachments and parts.....	38		5,070,825		6,483,607

¹ Data for sizes combined to avoid disclosing approximations of data for individual establishments.

² Asparagus cutters, combined potato planter and digger, kaffir headers, potato pickers, etc. Data for grain headers, windrowers and windrow attachments, corn binders (row binders), corn harvesters (not binders), cotton pickers and strippers, and self-rake reapers are included in the figures for this item to avoid disclosing approximations of data for individual establishments.

TABLE 8.—HAYING MACHINERY MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$7,088,582		\$7,737,719
Mowers.....	15	43,312	2,377,633	49,012	2,683,022
Rakes, sulky (dump).....	13	17,786	514,121	20,306	605,703
Rakes (side-delivery).....	3	2,555	236,826	2,113	191,651
Rakes (sweep).....	12	7,118	260,461	4,735	179,867
Loaders.....	12	10,042	827,690	9,922	792,954
Stackers.....	10	2,369	190,096	1,573	125,134
Windrowers and bunchers.....	4	1,071	7,390	1,810	12,890
Other haying machines ¹	11	5,993	364,394	7,474	461,338
Attachments and parts.....	22		2,309,971		2,685,151

¹ Pea-vine rakes and pick ups. Data for tedders and combination side-rakes and tedders are included in the figures for this item to avoid disclosing approximations of data for individual establishments.

TABLE 9.—MACHINES FOR PREPARING CROPS FOR MARKET OR FOR USE MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$12,048,266		\$13,769,856
Grain threshers (wood).....	12	166	100,217	233	168,678
Grain threshers (steel):					
Width of rear 46 inches and under.....	14	3,231	2,404,291	4,204	3,360,688
Width of rear 47 inches and over.....	11	557	606,887	843	1,007,816
Pea and bean threshers.....	9	132	100,042	126	91,606
Peanut threshers (pickers).....	8	365	158,357	372	157,983
Ensilage cutters (silo fillers).....	23	3,156	597,014	3,718	700,319
Fodder cutters.....	14	1,967	39,039	1,864	36,002
Corn shellers (hand).....	10	14,759	120,793	14,697	119,845
Corn shellers (power):					
Spring (2, 4, 6, and 8 hole).....	10	1,042	149,588	1,238	155,460
Cylinder.....	9	1,052	269,697	1,053	268,414
Corn huskers and shredders.....	7	631	293,572	619	309,323
Haypresses:					
Horse.....	8	316	43,377	380	53,070
Other power.....	14	1,311	544,851	1,230	521,725
Feed grinders and crushers:					
Hand.....	9	16,373	46,473	15,539	44,308
Power.....	25	17,124	714,598	20,025	787,648
Hammer mills.....	22	11,041	2,086,421	11,152	1,076,424
Grain cleaners and graders (for small grains only).....	13	3,642	146,766	3,469	148,877
Potato sorters and graders.....	7	1,528	78,448	1,280	66,636
Cane mills (farm size).....	6	1,602	79,217	1,637	80,370
Sirup evaporators (cane).....	3	5,366	60,574	5,788	63,361
Sirup evaporators (maple):					
Complete sets of pans, not including furnaces.....	6	586	127,642	583	127,355
Furnaces.....	5	500	46,737	499	40,642
Cider mills and fruit presses ¹	13	17,356	185,860	18,293	182,124
Other machines for preparing crops for market or for use ²	39	2,822	463,435	3,077	522,580
Attachments and parts.....	75		2,582,960		2,713,744

¹ Includes hydraulic presses used in factories.² Baled-hay cutters, alfalfa and rice threshers, hand hay presses, seed-potato cutters, seed-corn driers, oat hullers, cranberry separators, fruit washers, wipers, and cleaners, root cutters, bean graders, seed and bean cleaning machines, smut treaters, combination furnaces and evaporators, dry-feed mixers, tobacco-barn equipment, pea and bean hullers, etc. Data for clover hullers, cane-sirup evaporator furnaces, and maple-sirup evaporator pans for replacement are included in the figures for this item to avoid disclosing approximations of data for individual establishments.

TABLE 10.—TRACTORS MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$75,572,447		\$98,129,434
Tractors:					
Wheeled type, total.....		61,940	42,601,471	80,805	54,529,145
Except all purpose—					
Belt horsepower—					
Under 25.....	12	15,481	8,236,361	20,797	11,015,437
25-29.....	5	2,394	2,070,475	2,945	2,650,975
30-49.....	12	18,095	16,166,210	26,645	22,486,699
50 and over.....	4	139	254,250	242	423,943
All purpose.....	7	25,831	15,874,175	30,266	17,952,091
Tracklaying type.....	8	7,089	13,316,457	10,064	19,439,375
Garden tractors.....	11	2,675	589,731	2,673	585,377
Attachments and parts ¹	26		19,064,788		23,575,537
Wheeled type tractors, except "All purpose":					
Plow pull—					
1-plow pull.....	4	469	170,327	523	194,390
2-plow pull ²	10	17,261	9,961,487	22,564	12,804,374
3-plow pull and over ³	15	18,379	16,595,482	27,542	23,578,290

¹ Includes tracklaying attachments (used to convert wheeled tractors to tracklaying type). Figures combined to avoid disclosing approximations of data for individual establishments.

² Includes tractors reported by 1 establishment as 2-3 plow pull.

³ Includes tractors reported as 3-8 plow pull. Figures combined to avoid disclosing approximations of data for individual establishments.

TABLE 11.—HORSE-DRAWN VEHICLES MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$1,977,264		\$1,897,177
Wagons, farm.....	39	10,316	754,742	9,740	675,405
Trucks, farm.....	30	16,043	623,284	16,282	636,245
Buggies.....	6	491	39,552	493	39,652
Carts (2-wheeled).....	13	633	19,616	665	19,136
Bobsleds.....	7	461	11,986	256	7,742
Other horse-drawn vehicles ¹	7	760	22,107	541	19,857
Attachments and parts.....	34		505,977		499,140

¹ Tobacco trucks and trailers. Data for light spring vehicles, other than buggies, are included in the figures for this item to avoid disclosing approximations of data for individual establishments.

TABLE 12.—BARN AND BARNYARD EQUIPMENT MANUFACTURED AND SOLD—
NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$5,009,785		\$4,982,466
Feed and litter carriers, overhead (box and gearing only).....	18	3,120	110,329	3,121	110,890
Hay carriers.....	13	21,559	182,393	22,389	190,857
Truck for carriers..... feet.....	20	1,059,852	184,084	1,092,909	188,375
Hay forks (harpoon, grapple, etc.).....	11	27,003	74,119	25,799	66,479
Hay slings.....	11	23,266	52,726	24,395	53,802
Feed trucks.....	13	543	13,358	545	13,419
Stanchions.....	21	225,024	655,274	226,270	668,802
Manger partitions and fittings.....	13	10,773	24,044	9,999	22,820
Stalls and fittings (not including stanchions and manger divisions).....	19	93,252	599,772	94,244	608,339
Stock pens (steel).....	13		144,465		142,142
Hog troughs.....	42	330,121	152,817	325,199	150,153
Stock tanks.....	50	77,461	767,667	75,339	760,049
Stock-watering bowls and fountains.....	29	39,368	190,020	39,345	192,060
Individual drinking cups.....	12	87,577	218,425	86,725	214,369
Feed cookers.....	16	2,329	28,223	2,170	26,115
Stock feeders.....	24	15,116	388,685	14,880	388,824
Tank heaters.....	14	12,983	85,610	12,449	85,109
Barn-door hangers and track.....	4		309,207		298,966
Other equipment ¹	32		834,733		825,813
Attachments and parts.....	5		4,834		5,034

¹ Animal pokes, barn cupolas, barn-ventilating systems, hog houses, hog oilers, hog scalders, hoists, tanks for dipping, milking stools, and miscellaneous undistributed barn equipment.

TABLE 13.—MISCELLANEOUS FARM AND RELATED EQUIPMENT MANUFACTURED
AND SOLD—NUMBER AND VALUE, BY KIND: 1931

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Total.....			\$55,329,901		\$55,431,181
Beekeepers' supplies.....	16		859,813		963,242
Corncribs (portable).....	13	23,621	168,461	24,500	171,228
Grainbins (portable).....	13	5,603	422,353	5,471	411,374
Dairy machinery:					
Milking machines (complete units).....	9	14,896	1,354,562	10,441	977,375
Cream separators, hand.....	11	94,426	2,372,359	71,635	2,799,993
Other dairy equipment ¹	8		325,233		439,596
Attachments and parts.....	11		1,526,601		1,107,367
Elevators, farm:					
Portable.....	17	1,360	234,620	1,368	228,649
Stationary.....	10	412	122,520	438	114,667
Attachments.....	6		89,097		92,130
Eveners; singletrees, doubletrees, and neck yokes ²	16		254,849		280,544
Gates, farm:					
Field.....	14	108,278	502,730	106,787	492,460
Other.....	5	20,232	60,607	18,791	56,365
Forks, hoes, rakes, shovels, and spades.....	28		8,047,377		7,972,467
Scythes.....	7	321,678	270,890	292,585	241,087
Snaths.....	3	272,408	206,150	272,329	198,432
Engines, internal-combustion:					
Less than 5 horsepower.....	20	33,057	1,060,722	34,242	1,093,980
5 or more but under 10 horsepower.....	18	3,952	504,720	4,622	576,800
10 or more but under 20 horsepower.....	11	1,063	313,239	1,082	325,759
Attachments and parts.....	13		543,326		598,203
Lawn mowers:					
Hand.....	24	714,821	4,102,755	712,012	4,092,875
Power (with built-in engine or motor).....	13	7,051	1,343,342	6,884	1,332,138
Horse-drawn and tractor propelled ³	5	448	118,903	421	108,076
Attachments and parts, including cutting units for sale as such ²	10		637,866		610,146

See footnotes at end of table.

TABLE 13.—MISCELLANEOUS FARM AND RELATED EQUIPMENT MANUFACTURED AND SOLD—NUMBER AND VALUE, BY KIND: 1931—Continued

KIND	Number of establishments	MANUFACTURED		SOLD	
		Number	Value	Number	Value
Lighting plants, electric, residence, etc. (complete units).....	15	6,884	\$1,523,061	8,886	\$2,196,887
Lightning rod.....feet.....	17	2,989,893	443,927	2,876,189	428,526
Poultry-farm equipment:					
Brooders.....	23	147,147	1,638,972	138,827	1,564,689
Incubators—					
Lump type (1,000-egg and smaller).....	19	28,978	463,859	29,649	389,781
Commercial type (over 1,000-egg capacity).....	8	10,087,060	2,012,140	16,077,780	1,923,347
Poultry feeders.....	19	1,620,187	754,867	1,601,074	740,830
Poultry waterers.....	25	1,572,293	464,864	1,478,196	427,466
Other poultry-farm equipment.....	28		756,566		744,224
Attachments and parts.....	11		179,181		179,181
Water systems, pneumatic (domestic):					
Deep well—					
3 horsepower and smaller.....	37	16,085	1,231,196	16,536	1,229,046
Over 3 horsepower.....	7	836	484,013	821	478,288
Shallow well—					
Under 250 gallons per hour.....	23	46,585	1,988,856	47,220	2,042,791
250-499 gallons per hour.....	28	27,588	1,527,435	27,447	1,522,831
500 gallons per hour and over.....	18	4,219	498,103	4,215	499,219
Attachments and parts.....	8		188,826		186,213
Pumps, water:					
Hand—					
Pitcher.....	24	214,546	299,987	213,271	297,806
Other hand pumps.....	33	118,397	856,645	119,993	868,482
Power—					
Horizontal type, up to and including 75 gallons per minute, 100 pounds pressure.....	15	22,676	948,520	22,484	934,668
Windmill pumps.....	25	50,976	426,581	53,367	448,150
Cylinders for sale separately.....	28	140,082	449,170	146,879	468,515
Attachments and parts.....	16		262,014		287,751
Pump jacks.....	33	24,969	222,576	24,803	215,488
Spraying outfits, complete:					
Power ¹	15	5,059	1,464,093	5,321	1,444,873
Traction.....	7	896	148,566	830	133,574
Hand (with tank, barrel, knapsack, etc.).....	13	147,827	536,089	147,937	536,419
Spray pumps (not included above):					
Power.....	8	2,297	146,875	2,136	140,084
Hand, except household.....	9	527,525	367,219	554,096	386,101
Attachments and parts.....	12		618,011		497,610
Dusters:					
Power.....	7	871	130,324	652	114,744
Traction.....	6	997	162,915	633	114,721
Hand, except household.....	5	5,818	49,721	6,800	56,981
Pushcarts and hand trucks.....	17	15,515	116,705	15,628	118,590
Silos.....	16	3,099	1,245,834	2,792	1,043,564
Stump pullers.....	5	379	66,477	379	66,477
Trucks, tongue.....	5	9,464	83,122	9,349	83,811
Wheelbarrows:					
Wooden.....	19	73,784	317,158	72,817	310,362
Steel (tubular).....	13	159,987	636,903	161,230	639,738
Windmills.....	21	35,406	1,211,534	37,523	1,294,992
Windmill attachments and parts.....	13		264,857		260,358
Windmill towers.....	22	11,257	440,362	11,357	445,284
Wood-sawing machines (circular).....	20	4,996	73,978	5,346	81,686
Wood-sawing machines (drag).....	9	683	34,777	704	34,693
Miscellaneous items ²			2,738,531		2,800,649
Attachments and parts ³			811,426		866,127

¹ Power cream separators and butter-making equipment.² Figures combined to avoid disclosing approximations of data for individual establishments.³ The values of some of the sprayers include the values of built-in engines.⁴ Ditchers and graders, fence stretchers, hand weeders and other garden tools, implement tongues, brush burners, water sprinklers, well casing, terracing implements, soil shredders, grader blades, axes, corn knives, grass hooks, sheep shears, pruning shears, universal carriers, land levelers, farm ladders, overhead irrigation systems, drag scrapers, milk cans and coolers, wheels for farm and other uses, and miscellaneous undistributed items for farm use, etc.⁵ Includes attachments and parts for land levelers, lighting plants, saw machines, stump pullers, universal carriers, etc., and miscellaneous undistributed items.

CASH REGISTERS AND ADDING, CALCULATING, AND CARD-TABULATING MACHINES; TYPEWRITERS AND PARTS

[A preliminary report for these industries was issued under date of Aug. 9, 1932]

Description of the industries.—The "Cash registers and adding, calculating, and card-tabulating machines" industry embraces establishments engaged primarily in the manufacture of cash registers; adding and calculating machines; fare registers and fare boxes; taxicab meters; slide rules; change-making machines; coin-counting, ticket-counting, and other counting machines; voting machines; and card-punching, card-sorting, and card-tabulating machines.

The "Typewriters and parts" industry embraces establishments engaged primarily in the manufacture and rebuilding of typewriters and the manufacture of typewriter parts and attachments.

Certain establishments which manufacture typewriter-bookkeeping-billing machines were classified in the "Cash registers," etc., industry for 1931 and in the "Typewriters and parts" industry for earlier years. For this reason the figures for the separate industries for 1929 and 1927 are not strictly comparable with the corresponding ones for 1931, and therefore the several items for the earlier years are given in this report for the two industries in combination.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1927 TO 1931, AND FOR STATES, 1931

[Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported for individual establishments. Two of the "Other States"—namely, Michigan and Ohio—are, however, more important in the cash registers, etc., industry than New York, shown separately. No State statistics can be given for the "Typewriters and parts" industry]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³
CASH REGISTERS AND ADDING, CALCULATING, AND CARD-TABULATING MACHINES, AND TYPEWRITERS AND PARTS INDUSTRIES						
<i>United States</i>						
1931.....	61	23, 100	\$25, 310, 468	\$9, 054, 289	\$78, 531, 197	\$69, 476, 903
1929.....	72	33, 785	52, 065, 192	18, 014, 614	171, 858, 601	163, 843, 987
1927.....	67	29, 975	41, 154, 005	21, 068, 270	162, 163, 833	141, 095, 533
Percent of increase or decrease (—):						
1929-31.....	(⁴)	-31. 6	-51. 4	-49. 7	-54. 3	-54. 8
1927-29.....	(⁵)	12. 7	26. 5	-14. 5	6. 0	9. 0
CASH REGISTERS AND ADDING, CALCULATING, AND CARD-TABULATING MACHINES						
<i>United States</i>						
1931.....	41	12, 176	\$14, 982, 432	\$5, 268, 857	\$56, 474, 299	\$51, 205, 442
<i>States, 1931</i>						
Illinois.....	5	602	660, 081	268, 910	1, 774, 639	1, 507, 729
New York.....	14	1, 393	2, 037, 290	1, 745, 840	7, 464, 503	5, 718, 663
Other States ⁶	22	10, 181	12, 285, 061	3, 256, 107	47, 235, 157	43, 979, 050
TYPEWRITERS AND PARTS						
<i>United States</i>						
1931 ⁷	20	10, 924	10, 328, 036	3, 785, 432	22, 056, 898	18, 271, 466

¹ The cost of mill supplies is included in the item for 1927 but not in those for 1929 and 1931.

² For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

³ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

⁴ Percent not computed where base is less than 100.

⁵ California, 2 establishments; Connecticut, 2; Florida, 1; Indiana, 1; Michigan, 2; Missouri, 1; New Jersey, 2; Ohio, 7; Pennsylvania, 1; Wisconsin, 3.

⁶ Connecticut, 4 establishments; Illinois, 3; New Jersey, 2; New York, 9; Tennessee, 1; Washington, 1. Because of the fact that the publication of statistics for the leading States would disclose, exactly or approximately, the data reported by individual establishments, no State figures for this industry are given.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931 AND 1929, AND FOR STATES, 1931

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

	Average number employed during year	NUMBER REPORTED FOR--											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
THE INDUSTRIES IN COMBINATION													
United States													
1931-----	23, 100	24, 732	24, 366	24, 363	23, 976	23, 713	23, 565	23, 046	22, 771	22, 067	21, 423	21, 591	21, 581
1929-----	33, 785	31, 507	33, 045	33, 839	34, 097	33, 963	34, 275	34, 313	34, 099	34, 226	34, 472	34, 180	33, 341
CASH REGISTERS AND ADDING, CALCULATING, AND CARD-TABULATING MACHINES ¹													
United States													
1931-----	12, 176	13, 381	13, 072	12, 867	12, 712	12, 379	12, 237	12, 254	12, 040	11, 481	11, 173	11, 243	11, 272
States, 1931													
Illinois-----	602	694	678	663	662	566	608	600	557	573	578	547	493
New York-----	1, 393	1, 725	1, 672	1, 715	1, 578	1, 533	1, 506	1, 546	1, 486	1, 211	881	903	956
TYPEWRITERS AND PARTS													
United States													
1931 ² -----	10, 924	11, 351	11, 294	11, 496	11, 264	11, 334	11, 328	10, 792	10, 731	10, 586	10, 250	10, 345	10, 309

¹ This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column.

² See table 1, footnote 6.

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1927 TO 1931

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9. No corresponding data for earlier years are available]

KIND	1931	1929	1927
1. "Cash registers and adding, calculating, and card-tabulating machines" and "Typewriters and parts" industries, all products, total value.....	\$78,531,197	\$171,858,601	\$162,163,833
2. Cash registers, adding machines, calculating machines, etc., typewriters, and parts and attachments, value.....	73,964,002	167,049,878	154,783,113
3. Other products (not normally belonging to the industries), value.....	3,945,383	4,005,604	7,375,715
4. Receipts for contract and repair work.....	621,812	803,119	
5. Cash registers, adding machines, typewriters, etc., made as secondary products in other industries, value.....	454,280	699,392	493,717
Cash registers, adding machines, typewriters, etc., all industries:			
Aggregate value (sum of 2 and 5).....	\$74,418,282	\$167,749,270	\$155,281,833
Adding machines:			
Number.....	51,516	(²)	(²)
Value.....	\$5,459,730	(²)	(²)
Calculating machines:			
Number.....	12,575	57,201	62,125
Value.....	\$3,484,647	\$11,616,947	\$10,613,610
Cash registers; card punching, sorting, and tabulating machines; change-making machines; coin counters; fare registers and fare boxes; taxicab meters and ticket-counting machines, ¹ value.....	\$28,547,350	\$61,272,174	\$49,526,093
Other adding, calculating, and computing devices, value.....	\$420,684	\$771,248	(¹)
Listing-adding-bookkeeping machines and typewriter-bookkeeping-billing machines:			
Number.....	10,012	(²)	(²)
Value.....	\$6,833,092	(²)	(²)
Parts and attachments for above machines, value.....	\$4,162,681	\$6,646,686	\$7,076,618
Typewriters, new:			
Standard typewriters, including long-carriage:			
Number.....	304,897	587,509	555,021
Value.....	\$12,111,759	\$31,300,830	\$31,770,405
Portable typewriters:			
Number.....	214,110	(²)	(²)
Value.....	\$5,842,384	(²)	(²)
Rebuilt typewriters, value.....	\$1,218,108	\$2,273,057	\$1,555,162
Parts and attachments for typewriters, value.....	\$2,483,401	\$6,475,563	\$2,737,031
Other products (rebuilt machines other than typewriters, experimental work, postage meters, and credit systems).....	\$3,854,446		
Undistributed, value.....		\$47,392,765	\$52,002,316

¹ This item is not strictly comparable with the corresponding ones for 1929 and 1931 for the reason that some of the manufacturers reporting for 1927 based their figures on list prices rather than on f.o.b. factory prices. The decrease in average unit values indicated by the figures is, therefore, apparent rather than real.

² No figures comparable with those for 1931 can be given without disclosing approximations of the data for individual establishments; value included in value of "Undistributed."

³ Combined to avoid disclosing, exactly or approximately, the production of individual establishments.

⁴ No comparable data.

⁵ See footnote 2.

BUSINESS MACHINES

PRODUCTION, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1927
TO 1931

[The following table presents statistics showing the production of certain kinds of office and store equipment, commonly known as business machines, so far as reported separately. These products are manufactured primarily in the following-named industries. Cash registers and adding, calculating, and card-tabulating machines; Typewriters and parts; Foundry and machine-shop products not elsewhere classified; and Scales and balances. Data on dictating machines were collected, but statistics for this type of equipment could not be published separately without disclosing the output of individual establishments]

KIND	1931	1929	1927
Adding machines: ¹			
Number.....	51, 516		
Value.....	\$5, 459, 730		
Listing-adding-bookkeeping and typewriter-bookkeeping-billing machines: ¹			
Number.....	10, 012	529, 858	
Value.....	\$6, 833, 092	\$47, 392, 765	\$52, 002, 316
Typewriters:			
Portable: ¹			
Number.....	214, 119		
Value.....	\$5, 842, 384		
Standard, including long-carriage:			
Number.....	304, 897	587, 509	555, 021
Value.....	\$12, 111, 759	\$31, 309, 830	\$31, 770, 405
Addressing and mailing machines.....	\$6, 166, 393	\$10, 537, 012	\$9, 787, 737
Calculating machines:			
Number.....	12, 575	57, 201	62, 126
Value.....	\$3, 484, 647	\$11, 016, 947	\$10, 613, 610
Cash registers; card punching, sorting, and tabulating machines; change-making machines and coin counters; fare registers and fare boxes; taxicab meters; and ticket-counting machines ¹	\$28, 547, 350	\$61, 272, 174	\$49, 526, 093
Check-writing machines, total value.....	\$1, 316, 032	\$2, 346, 239	\$1, 779, 717
Number reported:			
Number.....	31, 961	63, 576	
Value.....	\$1, 074, 514	\$2, 179, 422	
Number not reported, value.....	\$241, 518	\$106, 817	\$1, 779, 717
Manifolding machines (mimeographs, multigraphs, etc.).....	\$2, 998, 427	\$3, 488, 745	\$3, 778, 842
Scales and balances.....	\$12, 072, 174	\$25, 385, 186	\$22, 160, 298

¹ Data for listing-adding-bookkeeping machines were included with those for adding machines and data for typewriter-bookkeeping-billing machines were included with those for portable typewriters for years prior to 1931, to avoid disclosing, exactly or approximately, the output of individual establishments.

² Data were called for separately on the schedule, but were combined to avoid disclosing, exactly or approximately, the production of individual establishments.

ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES

[A preliminary report for this industry was issued under date of Nov. 1, 1932]

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of machinery, apparatus, and supplies for employment directly in the generation, storage, transmission, or utilization of electric energy. It does not cover establishments whose principal products are electric-lighting fixtures, electric signs, or motor-driven tools, mechanical refrigerators, washing machines, and other machines and appliances constructed with built-in motors, these being classified for census purposes in other industries. (See table 18, p. 974.) The number of establishments is, therefore, considerably smaller than the total number of manufacturers of electrical equipment of all kinds.

The manufacture of radios and radio apparatus, including tubes, was treated as part of the Electrical Machinery, Apparatus, and Supplies industry at former censuses, but is now classified in the Radio Apparatus and Phonographs industry. For this reason the statistics for Electrical Machinery, Apparatus, and Supplies as published at former censuses are not comparable with those for the industry as now constituted. An additional set of figures for 1931, comparable with those for earlier years, is, therefore, given in table 1; and the aggregate values of electrical machinery, apparatus, and supplies made in all industries in 1929, 1927, and 1925, as given in table 3, have been revised by deducting the values of radio apparatus and tubes manufactured in those years.

Detailed statistics of products (tables 3-17).—For those classes of products which are manufactured principally in the Electrical Machinery, Apparatus, and Supplies industry, the detailed statistics of products cover, in addition to the output of establishments assigned to this industry, electrical equipment made as secondary products (so far as separately reported) by establishments engaged primarily in other lines of manufacture. (See sec. 11, p. 7.) The most important example of such secondary production is insulated wire and cable, reported for 1931 to the value of \$36,644,501, chiefly by manufacturers of plain wire.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry, than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
<i>United States</i>						
1931 ²	1,370	180,106	\$204,488,041	\$337,124,534	\$995,010,213	\$657,885,679
1929.....	1,567	214,734	237,753,467	423,510,802	1,179,407,754	755,896,862
1927.....	1,802	328,722	456,377,629	971,017,623	2,300,915,572	1,329,897,949
1925.....	1,777	241,666	336,238,750	645,761,699	1,637,307,035	991,545,336
1923.....	1,739	239,921	323,834,641	636,692,076	1,540,002,041	903,309,965
1921.....	1,671	234,892	305,455,263	548,626,673	1,293,001,771	744,375,098
1919.....	1,333	161,204	194,242,357	344,069,963	833,985,443	489,915,480
1917.....	1,404	212,374	238,188,852	425,098,211	997,968,119	572,869,908
1915.....	1,030	118,078	73,806,329	154,728,076	335,170,194	180,442,118
1913.....	1,009	87,256	49,881,145	108,566,404	221,308,563	112,742,159
1911.....	784	60,466	31,841,621	66,836,926	140,509,369	73,972,443
1909.....	581	42,013	20,679,194	40,458,272	92,434,435	42,976,163
1899.....						
Percent of increase or decrease (—):						
1929-31.....	-13.0	-34.7	-47.9	-56.4	-48.7	-43.2
1927-29.....	1.4	36.1	54.8	50.4	40.5	34.1
1925-27.....	2.2	.7	3.8	1.4	6.3	9.8
1923-25.....	4.1	2.1	6.0	16.1	19.1	21.4
1921-23.....	25.4	45.7	57.3	59.5	55.0	51.9
1919-21.....	-5.1	-24.1	-18.5	-19.1	-16.4	-14.5
1921-31.....	17.6	33.2	22.4	23.1	41.4	54.3
1919-29.....	28.3	54.8	91.6	128.4	130.6	132.1
1909-19.....	30.1	143.4	382.3	291.6	350.9	408.1
1899-1909.....	73.7	107.7	140.0	119.5	139.4	162.3
<i>States, 1931</i>						
California.....	90	2,188	\$2,618,635	\$8,142,160	\$19,984,001	\$11,841,841
Colorado.....	5	45	49,686	111,379	207,006	95,627
Connecticut.....	53	10,358	10,395,763	18,165,030	43,522,425	25,357,395
Florida.....	3	18	18,499	31,734	70,834	30,100
Illinois.....	177	28,864	37,191,437	42,950,781	169,582,227	126,631,446
Indiana.....	39	12,390	13,287,884	22,409,317	59,505,866	37,096,539
Iowa.....	8	176	190,801	493,378	1,417,923	924,545
Kentucky.....	14	436	425,877	840,046	2,330,847	1,490,801
Massachusetts.....	86	17,101	20,165,117	27,600,538	93,097,720	65,597,182
Michigan.....	56	3,292	3,454,450	8,161,527	20,785,770	12,624,243
Minnesota.....	25	911	1,010,941	2,808,743	7,168,554	4,349,811
Missouri.....	52	5,157	5,027,646	10,900,054	33,936,709	23,036,665
Nebraska.....	4	58	56,786	227,725	312,684	84,959
New Hampshire.....	7	268	176,770	175,779	516,470	340,691
New Jersey.....	112	18,511	22,052,045	35,097,964	108,591,494	73,493,630
New York.....	222	23,845	27,125,906	43,258,950	104,933,766	61,674,816
North Carolina.....	5	36	35,090	51,232	162,528	111,296
Ohio.....	157	20,128	22,277,646	44,817,926	123,814,524	83,996,598
Oregon.....	5	39	47,396	91,340	210,050	118,710
Pennsylvania.....	122	27,138	20,868,061	46,110,580	142,314,855	96,204,275
Rhode Island.....	9	1,127	1,023,515	4,525,641	7,043,333	3,417,692
Texas.....	14	138	144,984	418,576	875,649	457,073
Virginia.....	5	225	173,008	155,956	387,974	232,018
Washington.....	12	150	206,564	513,642	1,091,654	578,012
West Virginia.....	12	409	456,005	1,406,597	2,669,952	1,263,055
Wisconsin.....	53	5,102	4,885,694	9,585,209	27,893,711	18,308,502
Other States ³	32	1,996	2,121,235	8,172,430	16,691,697	8,519,267

¹ Value of products less cost of materials, containers, fuel, and purchased electric energy. See sec. 20, p. 11.

² Figures in roman type refer to industry as now constituted; figures in italics are comparable with those for earlier years. See "Description of the industry," second paragraph, p. 958.

³ Alabama, 3 establishments; Arkansas, 1; District of Columbia, 2; Georgia, 4; Kansas, 2; Louisiana, 2; Maryland, 9; Mississippi, 1; North Dakota, 1; Oklahoma, 4; Tennessee, 1; Utah, 1; Vermont, 1.

TABLE 2.—WAGE EARNERS, BY MONTHS, BY STATES: 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8.]

STATE	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States.....	180,106	195,153	191,895	191,079	188,334	183,063	179,894	176,586	174,008	174,619	173,299	168,354	165,017
California.....	2,188	2,463	2,383	2,227	2,240	2,101	2,103	2,076	2,150	2,157	2,105	2,081	1,992
Colorado.....	45	37	37	39	37	40	43	40	44	57	60	47	49
Connecticut.....	10,338	11,067	11,016	10,942	10,769	10,414	10,229	10,004	9,907	9,957	10,119	10,045	9,769
Florida.....	18	19	18	18	18	18	18	18	18	18	17	17	17
Illinois.....	28,864	29,658	29,175	31,869	30,959	29,676	28,907	28,888	28,639	27,085	26,037	24,930	24,895
Indiana.....	12,390	12,597	12,532	12,340	12,276	12,288	12,284	12,376	12,522	12,874	12,626	12,052	11,912
Iowa.....	176	156	145	140	153	176	192	192	188	185	200	193	187
Kentucky.....	438	451	440	424	402	412	435	450	464	450	468	413	420
Massachusetts.....	17,101	17,547	17,461	18,369	18,118	17,468	17,337	16,920	16,495	16,822	16,589	16,028	15,664
Michigan.....	3,292	3,493	3,600	3,792	3,709	3,592	3,367	3,008	2,775	2,903	3,049	3,100	3,178
Minnesota.....	3,911	3,869	3,869	3,739	3,830	746	799	865	951	1,039	1,127	967	971
Missouri.....	5,157	5,434	4,883	5,155	5,241	5,408	5,356	5,231	5,088	5,030	5,181	5,075	4,802
Nebraska.....	58	50	50	53	54	67	55	43	41	57	84	83	72
New Hampshire.....	268	277	277	279	278	279	271	268	263	259	260	268	265
New Jersey.....	18,511	21,911	21,027	20,513	19,847	19,088	18,690	17,852	17,247	17,002	16,772	16,483	16,345
New York.....	23,845	26,094	25,715	25,399	24,983	24,297	23,948	22,959	22,591	23,155	23,199	22,275	21,919
North Carolina.....	36	36	36	32	34	30	32	35	37	41	43	42	39
Ohio.....	20,128	21,803	21,243	21,085	21,221	21,049	20,453	19,908	18,760	19,170	18,940	19,100	18,685
Oregon.....	39	43	42	43	43	43	43	40	39	36	34	32	32
Pennsylvania.....	27,137	29,448	28,554	28,450	28,072	26,996	26,447	26,370	26,402	26,788	26,819	25,948	25,850
Rhode Island.....	1,127	1,360	1,156	1,105	1,124	1,113	1,054	1,047	1,106	1,140	1,130	1,119	1,082
Texas.....	138	123	116	116	69	101	116	145	164	162	169	176	173
Virginia.....	225	759	197	214	198	187	201	244	315	297	265	225	218
Washington.....	150	160	142	160	147	135	149	147	161	157	154	143	141
West Virginia.....	409	462	446	438	436	447	453	434	438	365	336	327	324
Wisconsin.....	5,102	5,080	5,146	5,185	5,065	4,904	4,935	4,945	5,103	5,344	5,438	5,176	4,866

TABLE 3.—PRODUCTS, BY CLASS AND VALUE, FOR THE UNITED STATES: 1925 TO 1931

	1931	1929	1927	1925
1. Electrical Machinery, Apparatus, and Supplies industry, all products, total value.....	\$995,010,213			
2. Electrical machinery, apparatus, and supplies.....	916,911,122	(1)	(1)	(1)
3. Other products (not normally belonging to the industry) and receipts for contract and repair work.....	78,069,091			
4. Electrical machinery, apparatus, and supplies made as secondary products in other industries.....	70,731,773			
Electrical machinery, apparatus, and supplies, all industries:				
Aggregate value (sum of 2 and 4)....	987,642,895	\$1,918,733,253	\$1,515,229,791	\$1,397,708,618
Batteries and battery parts and supplies (see table 8).....	85,936,160	149,934,676	150,388,880	155,247,811
Conduits and fittings (see table 15).....	32,834,791	\$ 58,157,565	41,710,793	45,785,062
Control apparatus (see table 5).....	22,186,031	44,288,544	34,180,864	31,302,841
Electrotherapeutic and electromedical apparatus (see table 6).....	9,164,138	23,555,082	(4)	(4)
Fans, electric (see table 7).....	8,984,016	10,196,353	10,352,366	10,654,208
Fuses and fuse blocks (see table 16).....	7,761,248	14,036,325	10,891,242	10,392,806
Generators, motor-generator sets, and automotive generators (see table 4).....	34,437,877	80,932,360	\$ 111,099,390	\$ 110,185,015
Household apparatus and appliances (see table 10).....	55,578,467	84,485,468	77,519,218	75,102,165
Ignition apparatus for internal-combustion engines (see table 13).....	27,894,110	58,627,039	36,431,444	41,854,205
Industrial and commercial apparatus and appliances (see table 10).....	17,660,020	28,636,977	12,761,010	10,283,335
Insulated wire and cable (see table 14).....	120,789,312	312,592,093	210,047,947	210,617,310
Lamps, incandescent-filament (not including sockets and other fittings), X-ray tubes, and other completely sealed glass lighting units (see table 9).....	70,502,054	85,319,515	87,933,244	73,558,210
Measuring instruments, meters, relays, and instrument and meter transformers (see table 11).....	22,714,914	\$ 38,523,171	\$ 34,133,212	\$ 31,650,355
Motors (including automotive starter-motors but not including motor-control apparatus) and motor parts and supplies (see table 7).....	95,002,893	194,845,523	\$ 122,345,338	\$ 113,109,577
Switchboards, circuit breakers, and switches (see table 12).....	44,832,249	81,201,122	\$ 71,924,341	\$ 69,759,067
Transformers, induction voltage regulators, and current-limiting reactors (see table 5).....	42,742,258	\$ 84,032,353	66,804,204	62,153,155
Wiring devices (see table 15).....	21,778,359	38,395,283	32,703,331	34,806,452
Miscellaneous electrical machinery, apparatus, and supplies (see table 17).....	266,843,998	\$ 530,973,804	\$ 403,993,962	\$ 311,247,044

¹ No comparable data. See "Description of the industry," second paragraph, p. 958.

² Revised. See "Description of the industry," second paragraph, p. 958. The difference between this total and that heretofore published is accounted for mainly by the deduction of the value of radio apparatus and tubes, but the total here given has been adjusted also on account of the revision of the items indexed to footnote 3.

³ Revised.

⁴ No comparable data; included in figure for "Miscellaneous electrical machinery, apparatus, and supplies."

⁵ Not comparable with figures for 1929 and 1931. See footnote 1, table 4, and footnote 2, table 7.

TABLE 4.—GENERATORS, MOTOR-GENERATOR SETS, AND AUTOMOTIVE GENERATORS—PRODUCTION; BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Aggregate value.....	\$34,437,877	\$80,932,360	\$111,099,390	\$110,185,015
Generators, not including motor-generator sets, automotive generators, nor self-contained power and lighting outfits:				
Total value.....	\$10,191,567	\$21,825,076	\$22,838,199	\$23,215,076
Steam-turbine driven:				
Direct current:				
5 kw. or more but under 500 kw.: ¹				
Number.....	281	2,694		
Total rated capacity.....	15,161	13,191		
Value.....	\$235,083	\$470,195		
500 kw. or more:				
Number.....	40	22	4,770	6,562
Total rated capacity.....	19,850	17,450	27,301	45,445
Value.....	\$233,661	\$218,787	\$674,859	\$1,514,708
Alternating current:				
Number.....	95	312	483	886
Total rated capacity (kv. a.).....	503,217	2,491,241	1,848,687	2,054,125
Value.....	\$3,386,232	\$12,267,422	\$8,741,000	\$8,468,376
Kind, number, and capacity not reported, value.....	\$110,893			
Other than steam-turbine driven:				
Direct current: ²				
Number.....	2,088	6,871	11,789	9,410
Total rated capacity (kw.).....	45,220	70,495	173,945	200,606
Value.....	\$786,600	\$1,810,874	\$3,827,930	\$3,891,820
Alternating current:				
Number.....	958	2,048		
Total rated capacity (kv. a.).....	806,731	1,377,977		
Value.....	\$5,439,098	\$7,057,798		
Synchronous condensers and frequency changers:				
Number.....	85	203	2,373	1,712
Total rated capacity (kv. a.).....	431,953	752,179	1,783,904	1,619,895
Value.....	\$2,546,567	\$4,240,796	\$9,594,410	\$9,431,072
Automotive generators for battery charging:				
Number.....	2,304,942	4,772,405	3,366,488	3,870,203
Value.....	\$10,584,122	\$28,210,251	\$58,127,969	\$56,221,356
Generators (axle-driven, for railway-car lighting, and small steam-turbine driven, for locomotive headlights, etc.):				
Number.....	360	(³)	(³)	(³)
Value.....	\$167,393	(³)	(³)	(³)
Generators for electroplating purposes:				
Number.....	699	(³)	(³)	(³)
Value.....	\$168,644	(³)	(³)	(³)
Self-contained power and lighting outfits not exceeding 5 kw.—engine, generator, and control, not including storage battery:				
Number reported:				
Number.....	7,094	30,634	43,558	43,408
Value.....	\$1,548,379	\$6,840,191	\$8,238,998	\$11,142,620
Number not reported, value.....	\$90,515			
Motor-generator sets and dynamotors (not including arc welding sets):				
Under 200 kw.:				
Number.....	15,696			
Total rated capacity (kw.).....	74,630			
Value.....	\$3,807,219			
200 kw. or more:				
Number.....	366	21,402	17,144	14,309
Total rated capacity (kw.).....	95,739	474,177	(³)	(³)
Value.....	\$2,199,923	\$13,397,158	\$6,764,299	\$8,264,118
Railway and vehicle power generators ⁴ (for gasoline-electric and oil-electric cars and busses) and parts and supplies for all types of generators, value.....	\$3,143,548	\$6,418,888	\$15,129,925	\$11,340,945

¹ Not comparable with items for 1929 and 1931; includes value of automotive starter-motors (shown for 1931 and 1929 in table 7).

² Figures for 1929 and earlier years not strictly comparable with those for 1931. See footnote 3.

³ Not called for separately on schedule; data for 1929 and earlier years included in items for "Steam-turbine driven, direct current, 5 kw. or more but under 500 kw." and "Other than steam-turbine driven, direct current" generators.

⁴ No comparable data.

⁵ The item for railway and vehicle power generators is combined with that for parts and supplies for all generators to avoid disclosing data reported by individual manufacturers of railway and vehicle power generators. The value of such generators is included with that of railway and vehicle motors for 1927 and 1925.

TABLE 5.—TRANSFORMERS, INDUCTION VOLTAGE REGULATORS, CURRENT-LIMITING REACTORS, AND CONTROL APPARATUS—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Aggregate value.....	\$64,923,289	\$128,320,897	\$100,985,068	\$93,455,996
Transformers, induction voltage regulators, and current-limiting reactors (except measuring-instrument transformers and radio transformers), total value.....	\$42,742,258	\$84,032,353	\$66,804,204	\$62,153,155
Distribution transformers—1½ to 500 kv.a.: ¹				
Number.....	138,786	273,628	236,617	195,671
Value.....	\$19,893,162	\$42,498,590	\$32,242,869	\$28,766,327
Power transformers—more than 500 kv.a.:				
Number.....	1,448	3,389	3,945	3,369
Value.....	\$15,079,714	\$28,984,734	\$22,805,740	\$20,233,698
Induction voltage regulators and bell-ringing and toy transformers, ² value.....	\$3,321,855	\$7,093,275		
Miscellaneous transformers, under 1½ kv.a. ⁴ (not including bell-ringing and toy transformers), constant-current transformers, and current-limiting reactors, value.....	\$3,847,527	\$5,455,754	\$11,755,595	\$13,153,130
Control apparatus, total value.....	\$22,186,031	\$44,288,544	\$34,180,864	\$31,302,841
Industrial magnetic control for a.c. motors, value.....	\$6,568,991	\$14,198,980	\$7,013,012	\$5,783,926
Industrial magnetic control for d.c. motors, value.....	\$3,257,902	\$6,947,281	\$8,490,225	\$6,324,568
Industrial manual control for a.c. motors, value.....	\$1,374,399	\$7,772,730	\$5,825,311	\$6,089,381
Industrial manual control for d.c. motors:				
Number.....	62,734	141,413	90,564	(⁵)
Value.....	\$702,354	\$2,258,911	\$1,930,984	\$1,608,912
Field rheostats, generator-voltage regulators, battery-charging rheostats, miscellaneous rheostats, and resistance units (not including theater dimmers), value.....	\$2,790,125	\$5,257,138		
Pressure regulators, float switches, limit switches, phase-failure relays (regulating and protective), electric brakes, railway and vehicle controllers, and other miscellaneous control switches, value.....	\$7,492,260	\$7,853,504	\$10,909,332	\$11,496,054

¹ Revised.² Reported as 1 to 500 kv.a. for 1929 and earlier years.³ Reported as transformers of less than 1 kv.a. for 1927 and 1925.⁴ Reported as less than 1 kv.a. for 1929 and earlier years.⁵ Data incomplete.TABLE 6.—ELECTROTHERAPEUTIC AND ELECTROMEDICAL (INCLUDING DENTAL) APPARATUS—PRODUCTION, BY KIND AND VALUE: 1931 AND 1929¹

	1931	1929 ¹
Total value.....	\$9,164,138	\$23,555,082
"Health" lamps, professional:		
Carbon-arc.....	158,251	670,751
Mercury-vapor.....	997,705	2,581,262
Other.....	567,723	941,731
Total.....	1,062,125	1,477,707
"Health" lamps, household.....		
X-ray apparatus (exclusive of X-ray tubes):	2,845,954	10,604,329
For general use.....	906,297	
For dental use.....	318,732	3,628,330
Motor-driven devices:		
"Health" motors and vibrators.....	31,003	3,035,963
Dental apparatus (except X-ray).....	981,463	
Other.....	1,294,885	615,009
All other electrotherapeutic and electromedical apparatus.....		

¹ No comparable data for prior years.² Includes value of X-ray tubes.

TABLE 7.—MOTORS (INCLUDING AUTOMOTIVE STARTER-MOTORS BUT NOT INCLUDING MOTOR-CONTROL APPARATUS¹), MOTOR PARTS AND SUPPLIES, AND ELECTRIC FANS—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Aggregate value.....	\$103,956,909	\$205,041,876	\$132,700,704	\$123,763,785
Motors, parts, and supplies, total value.....	\$95,002,893	\$194,845,523	\$122,348,338	\$113,109,577
Stationary motors, total value.....	\$68,430,465	\$136,034,880	\$97,672,957	\$92,647,851
Fractional-h.p. stationary motors (except "health" motors and vibrators), total value.....	\$33,648,244	\$51,252,239	\$33,902,719	\$28,249,265
Under 1/20 h.p. (toy motors and other fractional-h.p. motors not having definite commercial rating in accordance with A.I.E.E. standards):				
Number.....	858,644	3 778,738		
Value.....	\$2,088,222	\$3,195,741		
1/20 h.p. and over, but less than 1 h.p. (motors built on frames smaller than those of open-type motors having a continuous rating of 1 h.p. at 1,700-1,750 r.p.m.):				
Universal:				
Number.....	270,257	3 637,452		
Value.....	\$1,103,949	\$4,256,046		
Split-phase:				
Number.....	1,273,902	3 1,866,594		
Value.....	\$10,219,742	\$18,340,738		
Repulsion-induction:			3,045,659	2,288,348
Number.....	919,926	1,113,847	\$33,902,719	\$28,249,265
Value.....	\$12,914,618	\$17,607,565		
Direct-current:				
Number.....	133,181	276,483		
Value.....	\$1,912,033	\$4,295,139		
Other types of fractional-h.p. motors: Single-phase condenser type and motors built on frames as large as, or larger than, those for 1-h.p. open-type motors:				
Number.....	380,275	158,696		
Value.....	\$5,409,680	\$3,557,010		
1 h.p. and over, stationary motors, total value.....	\$34,782,221	\$34,782,641	\$63,770,268	\$64,398,586
Direct-current:				
1 to 10 h.p., inclusive:				
Number.....	20,954			
Value.....	\$2,242,962			
Over 10 h.p. but not over 200 h.p.:				
Number.....	9,108	87,376		
Total rated capacity.....	283,225	\$18,817,792		
Value.....	\$5,048,625		65,038	77,637
Over 200 h.p.:				
Number.....	119	266	628,044	635,130
Total rated capacity.....	543,391	247,994	\$15,627,962	\$15,796,626
Value.....	\$1,768,274	\$3,801,605		
Alternating-current:				
Repulsion-induction:				
Number and total rated capacity reported:				
Number.....	71,890	96,639	100,192	75,688
Total rated capacity.....	121,599	172,171	173,605	(4)
Value.....	\$3,018,435	\$5,241,601	\$5,623,471	\$5,670,586
Number and total rated capacity not reported, value.....	\$104,319			

See footnotes at end of table.

TABLE 7.—MOTORS (INCLUDING AUTOMOTIVE STARTER-MOTORS BUT NOT INCLUDING MOTOR-CONTROL APPARATUS¹), MOTOR PARTS AND SUPPLIES, AND ELECTRIC FANS—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931—Continued

	1931	1929	1927	1925
Motors, parts, and supplies—Continued.				
Stationary motors.—Continued.				
1 h.p. and over, stationary motors—Con.				
Alternating-current—Continued.				
Polyphase-induction:				
1 h.p. to 10 h.p., inclusive:				
Number and total rated capacity reported:				
Number.....	165,153			
Total rated capacity.....	550,145			
Value.....	\$9,593,077			
Number and total rated capacity not reported, value.....	\$257,843			
Over 10 h.p. but not over 200 h.p.:				
Number.....	37,768	525,232	356,373	291,162
Total rated capacity.....	919,536	4,615,280	3,590,055	(⁴)
Value.....	\$8,874,171	\$47,648,072	\$37,834,572	\$37,622,043
Over 200 h.p.:				
Number.....	398			
Total rated capacity.....	158,610			
Value.....	\$1,293,470			
Synchronous motors (except fractional-h.p.):				
Number.....	1,185	3,509	2,442	1,965
Total rated capacity.....	280,098	916,461	636,753	931,514
Value.....	\$2,305,902	\$7,820,939	\$4,684,263	\$5,309,331
Other types:				
Number.....	2,212	(⁴)		
Value.....	\$274,543	\$1,452,632		
Automotive starter-motors, value.....	\$13,043,646	\$32,849,221	(⁴)	(⁴)
Railway and vehicle motors (for gasoline-electric, oil-electric, and electric cars and busses) and parts and supplies for all types of motors, value ⁵	\$13,528,782	\$25,961,422	\$24,675,351	\$20,461,726
Electric fans, total value.....	\$8,984,016	\$10,196,353	\$10,352,366	\$10,654,208
Ceiling and column fans:				
Number.....	41,027	80,992	86,632	63,976
Value.....	\$1,074,494	\$2,228,041	\$2,565,641	\$1,835,256
Desk fans:				
Number.....	1,083,714	659,863	656,565	769,163
Value.....	\$7,909,522	\$7,770,658	\$7,756,725	\$8,518,952
Not reported by kind or number.....		\$197,654		

¹ For control apparatus, see table 5.

² Not comparable with figures for 1929 and 1931. See footnote 5.

³ Revised.

⁴ No comparable data.

⁵ Not reported separately; included in item for "Automotive generators for battery charging," table 4.

⁶ Item for railway and vehicle motors combined with that for parts and supplies for all motors to avoid disclosing approximations of data reported by individual manufacturers of railway and vehicle motors.

TABLE 8.—BATTERIES AND BATTERY PARTS AND SUPPLIES—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Total value.....	\$85,936,160	\$149,934,676	\$150,388,880	\$155,247,811
Storage batteries:				
Complete units, weight of single plate under 3 pounds:				
Motor-vehicle, 9 to 21 plates per cell:				
Number.....	11,542,450	15,655,568		
Value.....	\$54,532,898	\$86,481,959		
Radio, 3, 5, and 7 plates per cell:				
Number.....	32,811	393,148		
Value.....	\$294,908	\$2,477,241	\$79,673,707	\$88,870,146
Other types, value.....				
Complete units, weight of single plate 3 pounds and over.....	\$9,599,690	\$10,761,218		
Parts and supplies, value.....	\$1,308,223	\$3,880,702	\$18,134,041	\$21,341,597
Dry batteries:				
6-inch, both single and multiple units:				
Number of 1.5-volt cells.....	22,154,497	46,200,028	54,985,815	
Value.....	\$3,680,401	\$8,250,288	\$0,287,170	
Radio B and C battery cells (both flat and cylindrical):				
Number of cells.....	222,761,025	387,345,863	531,688,457	
Value.....	\$7,466,174	\$17,738,801	\$27,455,255	\$37,233,607
All other 1.5-volt dry cells—for flashlights, hand lanterns, special lighting units, etc.:				
Number reported:				
Number.....	198,436,920	² 217,334,857	135,694,906	
Value.....	\$5,571,368	² \$7,824,575	\$6,182,105	
Number not reported, value.....		² \$584,142		
Wet primary batteries, and parts and supplies for both dry and wet batteries, value.....	\$3,482,498	\$5,935,750	\$9,656,602	\$7,797,421

¹ Data called for separately on schedule; items combined to avoid disclosing approximations of production reported by individual establishments.

² Revised.

TABLE 9.—INCANDESCENT-FILAMENT LAMPS (NOT INCLUDING SOCKETS AND OTHER FITTINGS), X-RAY TUBES, AND OTHER COMPLETELY SEALED GLASS LIGHTING UNITS—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Total value.....	\$70,502,054	\$85,819,515	\$87,933,244	\$73,558,210
Large tungsten:				
Gas-filled:				
Number.....	204,737,687	202,451,663	160,078,714	61,488,129
Value.....	\$41,098,068	\$44,724,296	\$41,914,184	\$20,352,400
Vacuum:				
Number.....	115,082,805	149,802,848	174,527,279	204,973,625
Value.....	\$15,945,358	\$20,713,116	\$28,879,712	\$34,540,038
Miniature tungsten:				
Automobile:				
Number.....	95,262,653	139,162,835	93,336,957	114,800,550
Value.....	\$7,944,008	\$11,115,752	\$10,058,720	\$12,432,676
Other types:				
Number.....	70,459,378	132,869,936	95,428,023	65,946,289
Value.....	\$2,912,702	\$7,351,461	\$5,452,016	\$4,340,733
X-ray tubes, carbon lamps, photo-flash, and luminous-gas type (neon, etc.) low-voltage lamps, value.....	\$2,601,918	¹ \$1,414,890	¹ \$1,628,612	¹ \$1,392,363

¹ Value of carbon lamps only. Data for X-ray tubes are included in item for "X-ray apparatus (including X-ray tubes)" in table 6 of report for 1929. Data for photo-flash and luminous gas-type lamps were not called for on schedules for 1929 and earlier years.

TABLE 10.—INDUSTRIAL AND COMMERCIAL AND HOUSEHOLD APPARATUS AND APPLIANCES—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Aggregate value.....	\$73,238,487	\$113,122,445	\$90,280,228	\$85,385,500
Industrial and commercial apparatus and appliances (not including motor-driven tools), total value.....	\$17,660,020	\$28,636,977	\$12,761,010	\$10,283,335
Cooking apparatus, commercial—hotel ranges, broilers, bread-baking ovens, toasters, urns, etc., value.....	\$1,438,961	\$2,249,844	\$1,557,016	\$1,568,740
Furnaces:				
Arc, value.....	\$397,919	\$909,285	\$2,471,196	\$1,047,576
Induction, value.....	\$57,481	\$188,398		
Metallic-resistance:				
Number reported:.....	1,290	2,032		
Number.....	\$1,653,328	\$3,445,413		
Value.....	\$123,580	\$346,600		
Number not reported, value.....				
Heating units and devices, industrial:				
Ovens and electric-heating equipment therefor, value.....	\$654,552	\$860,565	\$746,645	\$1,174,217
Soldering irons, melting pots, kettles, etc., value.....	\$554,911	\$1,307,694	\$877,595	\$1,343,918
Space heaters, immersion heaters, and other heaters, value.....	\$1,238,942	\$2,607,486	\$1,752,053	\$1,732,457
Portable motor-driven devices such as hair clip- pers, hair and hand driers, blowers, etc., value.....	\$3,060,194	\$2,277,480	(1)	(1)
Permanent-wave machines, value.....	\$1,839,599	\$3,414,569	(2)	(2)
Welding apparatus and electrodes:				
Resistance welding apparatus, butt, spot, and line, value.....	\$1,597,230	\$2,356,601	\$1,889,941	\$1,657,108
Alternating-current-transformer arc welders:				
Number.....	454	973	(1)	(1)
Value.....	\$136,556	\$1,287,766	\$198,067	(1)
Direct-current welding apparatus:				
Motor-driven:				
Number.....	1,803	(1)	(1)	(1)
Value.....	\$1,201,358			
Gas-engine driven, value.....	\$577,085	\$5,794,296	\$2,540,288	\$1,759,319
Other drives, value.....	\$213,714			
Arc welding electrodes:				
Bare and carbon arc, value.....	\$513,517	\$1,290,980	\$728,209	(1)
Covered, value.....	\$2,074,736			
Gas welding wire, value.....	\$66,057			
Household apparatus and appliances, total value.....	\$55,578,467	\$84,485,468	\$77,519,218	\$75,102,165
Cooking utensils:				
Grills:				
Number.....	263,234	262,564	196,688	209,318
Value.....	\$331,721	\$503,906	\$320,750	\$577,628
Percolators:				
Number reported:				
Number.....	399,159	709,154	791,726	434,095
Value.....	\$1,986,715	\$3,985,735	\$4,297,395	\$3,593,496
Number not reported, value.....	\$527,364			
Toasters:				
Automatic:				
Number.....	172,846	507,017	1,276,145	735,856
Value.....	\$1,201,379	\$2,293,140		
Nonautomatic:				
Number.....	1,109,317	1,105,773	\$3,448,301	\$1,885,780
Value.....	\$1,687,618	\$2,156,580		
Waffleirons:				
Number.....	659,865	839,633	653,893	315,777
Value.....	\$2,514,891	\$4,371,220	\$3,601,411	\$1,864,287
Ranges, disk stoves, and hot plates, under 2½ kilo- watt:				
Number.....	276,382	694,230	255,587	216,559
Value.....	\$634,091	\$1,418,850	\$983,845	\$1,123,823
Ranges (not including hotel), 2½ kilowatt and over:				
Number.....	109,883	225,477	112,972	85,158
Value.....	\$9,008,131	\$15,514,332	\$11,135,286	\$6,776,963

Footnotes at end of table.

TABLE 10.—INDUSTRIAL AND COMMERCIAL AND HOUSEHOLD APPARATUS AND APPLIANCES—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931—Continued

	1931	1929	1927	1925
Household apparatus and appliances—Continued.				
Air heaters:				
Convector type:				
Number reported:				
Number.....	106,863	171,296	86,619	99,297
Value.....	\$389,429	\$740,422	\$568,568	\$374,367
Number not reported, value.....	\$152,752			
Radiant type:				
Number.....	218,016	332,198	231,232	396,318
Value.....	\$469,978	\$1,092,080	\$869,955	\$1,653,327
Water heaters for permanent installation:				
Side-arm type:				
Number.....	14,487	28,280		
Value.....	\$210,358	\$466,053		
Tank type (including tank):				
Number.....	12,274	30,022	33,636	54,042
Value.....	\$895,479	\$1,174,208	\$953,471	\$769,009
Other (including clamp-on type), value.....	\$210,605	(¹)	(²)	(³)
Water heaters, immersion:				
Number.....	85,557	29,013	(⁴)	(⁵)
Value.....	\$136,921	\$97,614	(⁶)	(⁷)
Flatirons:				
Automatic:				
Number.....	577,180			
Value.....	\$2,305,028			
Nonautomatic:				
Number.....	1,577,709	3,132,882	2,936,658	2,636,361
Value.....	\$2,763,731	\$8,018,080	\$7,917,001	\$7,998,429
Heating pads:				
Number.....	492,818	529,733	396,272	255,588
Value.....	\$1,039,514	\$1,715,461	\$1,518,188	\$976,706
Curling irons:				
Number.....	732,996	1,334,242	1,355,615	1,534,786
Value.....	\$381,281	\$972,295	\$984,496	\$1,703,068
Vacuum cleaners:				
Number reported:				
Number.....	887,475	¹ 1,407,224	1,128,256	¹ 1,107,592
Value.....	\$23,839,868	\$35,107,606	\$36,222,271	\$39,971,111
Number not reported, value.....	\$1,007,335			
Miscellaneous household devices not specified above, value.....				
	\$3,885,778	¹ \$4,826,977	¹ \$4,698,280	¹ \$5,834,179

¹ No comparable data.² Not reported separately.³ Not called for separately on schedule.⁴ Revised.

TABLE 11.—MEASURING INSTRUMENTS, METERS, RELAYS, AND INSTRUMENT AND METER TRANSFORMERS—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Aggregate value.....	\$22,714,914	\$38,523,171	\$34,133,212	\$31,650,355
Measuring instruments and meters, total value.....	\$19,183,009	\$31,737,028	\$28,558,337	\$27,905,507
Demand meters:				
Number.....	72,982			
Value.....	\$2,225,074			
Watt-hour meters, direct current, and ampere-hour meters:		\$1,677,315		
Number.....	7,327			
Value.....	\$187,516			
Watt-hour meters, alternating current:			\$18,137,175	\$19,230,142
Number.....	823,825	1,571,466		
Value.....	\$9,232,512	\$14,113,375		
Switchboard meters:				
Number.....	43,604	126,506	91,750	99,779
Value.....	\$984,455	\$2,728,631	\$2,362,202	\$2,412,567
Graphic recording meters:				
Number.....	4,253	7,518	(¹)	(²)
Value.....	\$606,428	\$1,067,292	\$697,848	\$507,603
Portable meters:				
Number.....	55,100	102,302	114,859	56,231
Value.....	\$1,615,643	\$2,948,725	\$2,109,934	\$1,460,019
Miniature meters, 3½ inches and under:				
Number reported:				
Number.....	810,737	936,112	2,664,224	4,047,573
Value.....	\$1,312,565	\$2,284,320	\$2,852,563	\$2,787,181
Number not reported, value.....	\$40,426			
Miscellaneous meters, value.....	\$868,199	\$911,230	(¹)	(²)
Laboratory testing and scientific instruments, value.....	\$2,110,191	\$6,006,140	\$2,398,615	\$1,507,995
Relays except industrial motor-control and telephone:				
Number.....	30,479	108,661	212,439	229,224
Value.....	\$956,173	\$1,710,394	\$861,298	\$1,971,687
Instrument and meter transformers:				
Number.....	65,157	140,496	136,388	114,402
Value.....	\$2,545,732	\$5,075,749	\$4,713,577	\$1,773,161

¹ Revised.² No comparable data.

TABLE 12.—SWITCHBOARDS, CIRCUIT BREAKERS, AND SWITCHES—PRODUCTION, BY KIND AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Total.....	\$44,832,249	\$81,201,122	\$71,924,341	\$69,759,067
Panel boards (for light and power), including main-service-feeder, power-feeder, and lighting-branch-circuit panel boards, with their enclosing cabinets..	4,832,407	6,971,250	5,442,653	5,866,628
Circuit breakers (not included in switchboards):				
Air:				
Enclosed.....	1,312,296	5,500,361	3,779,865	2,596,599
Open.....	3,284,837			
Oil:				
Indoor.....	2,343,085	24,485,351	14,798,909	17,891,246
Outdoor.....	6,232,497			
Switches (not included in switchboards):				
Disconnecting switches, single-pole units:				
Indoor.....	792,287	2,485,637	1,287,695	1,333,048
Outdoor.....	2,301,252	4,522,548	5,660,456	2,310,233
Knife switches:				
Enclosed (externally operated).....	3,248,870	7,909,603	6,019,045	5,925,610
Open.....	471,360	1,225,943	1,203,687	1,856,979
Switchboards for light and power, manually or electrically operated, not including those specified below.....	6,004,086	15,876,824	18,933,748	19,135,502
Switchboards, automatic type, for unattended light and power stations.....	1,906,652	3,822,586		
Switchboards, theater (including dimmers).....	446,136	968,987	1,429,686	(1)
Switch gear, indoor, metal-enclosed (cubicle, truck, vertical-lift, and horizontal draw-out types).....	4,612,587	(2)	(2)	(2)
Bus supports.....	837,873	1,346,591	1,079,045	1,172,150
Switch gear, outdoor, metal-enclosed (cubicle, truck, vertical-lift, and horizontal draw-out types); outdoor switch houses (including switchboards).....	1,404,466	1,153,166	1,533,542	11,671,072
Time switches (not included in switchboards).....		360,843		
Miscellaneous switches and switchboard accessories not included above.....	4,711,558	4,562,432	10,156,010	

¹ No comparable data.

² Not called for separately on schedule; included in items for panel boards and switchboards.

³ Reported as outdoor switch houses (including switchboards).

⁴ Combined to avoid disclosing approximations of data reported by individual establishments.

TABLE 13.—IGNITION APPARATUS FOR INTERNAL-COMBUSTION ENGINES—PRODUCTION, BY KIND AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Total value.....	\$27,894,110	\$58,627,099	\$36,431,444	\$41,854,205
Spark plugs:				
Number.....	61,389,628	93,872,403	60,156,858	62,576,387
Value.....	\$15,800,353	\$20,244,418	\$13,371,623	\$13,878,282
Coils, value.....	\$3,734,244	\$9,501,579	\$4,467,252	\$7,836,656
Magnetos, value.....	\$3,300,498	\$14,461,201	\$9,016,031	\$9,930,223
Distributors, magneto-generators, and other ignition apparatus not included above, value.....	\$5,059,015	\$14,419,841	\$5,576,538	\$10,209,044

¹ Includes a small amount representing value of magneto-generators, not reported separately.

² Not including value of magneto-generators. See footnote 1.

TABLE 14.—INSULATED WIRE AND CABLE—PRODUCTION, BY KIND AND VALUE: 1927 TO 1931

	1931	1929	1927 ¹
Insulated wire and cable, total value.....	\$120,789,312	\$312,592,093	\$210,047,947
Rubber-insulated: ²			
Lighting and power circuit:			
Braided.....	22,675,481	51,130,555	46,538,829
Leaded.....	8,859,493	23,037,318	13,103,230
Telephone.....	6,648,539	11,742,261	8,863,029
Flexible cords (rubber insulated, cotton and silk covered).....	7,717,411	20,189,102	11,461,221
Cotton-insulated, weatherproof.....	13,055,853	42,011,680	25,863,928
Paper-insulated:			
Lighting and power circuit and telephone and telegraph cable (including submarine).....	37,020,651	96,227,728	59,624,158
Varnished-cambric-insulated.....	3,389,296	7,209,890	9,373,242
Magnet:			
Cotton and silk covered.....	4,877,549	18,777,088	14,063,786
Enameled.....	6,157,775	30,641,417	6,132,838
Cotton-insulated slow-burning, and asbestos-insulated.....	2,530,446	11,625,054	15,053,686
Other insulated wire and that not distributed by kind of insulation.....	7,856,818		

¹ No comparable statistics in detail for earlier years are available. For total values of insulated wire and cable for 1925, see table 3, p. 961.

² The 1927 item for "Other insulated wire and that not distributed by kind of insulation" includes \$3,956,362, value of rubber-insulated wire and cable not distributed.

TABLE 15.—WIRING DEVICES AND CONDUITS—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Aggregate value.....	\$54,613,150	\$96,552,848	\$74,420,129	\$80,591,514
Wiring devices, total value.....	\$21,778,359	\$38,395,283	\$32,703,331	\$34,806,452
Lamp sockets and receptacles:				
Standard base:				
Brass-shell sockets and receptacles:				
Number.....	35,019,247	(²)		
Value.....	\$2,989,768	\$6,080,764		
Porcelain sockets and receptacles:				
Number.....	18,736,685	35,797,298		
Value.....	\$1,734,556	\$5,054,236		
Composition sockets and receptacles,				
value.....	\$838,636		\$6,507,671	108,117,878
value.....			\$12,393,071	\$14,945,247
Miniature and candelabra sockets and				
receptacles:				
Number.....	5,179,540	4,719,830		
Value.....	\$300,042	\$683,958		
Snap switches (flush, surface, and pendent				
all types):				
Number.....	27,600,022	(²)		
Value.....	\$6,399,186	\$11,289,500	42,852,389	27,152,093
Attachment plug caps:			\$8,310,708	\$7,014,639
10 amperes and under:				
Number.....	52,182,791	(²)		
Value.....	\$1,123,991	\$1,634,895		
Over 10 amperes:				
Number.....	7,928,546	5,108,341		
Value.....	\$460,327	\$366,970		
Convenience outlets:				
Single:				
Number.....	4,442,223	(²)	55,997,437	45,165,532
Value.....	\$349,685		\$5,320,857	\$4,204,683
Double:				
Number.....	7,276,403	(²)		
Value.....	\$829,077	\$1,431,336		
Outlets and switches combined:				
Number.....	452,835	(²)	(²)	(²)
Value.....	\$133,374	(²)	(²)	(²)
Face plates for wiring devices:				
Number.....	14,277,508	(²)		
Value.....	\$731,714	\$1,330,372	16,816,867	11,385,464
Miscellaneous wiring devices not elsewhere			\$1,271,010	\$1,050,506
specified, value.....	\$5,888,003	\$9,503,935	\$5,407,687	\$7,501,227
Conduits and fittings, total value.....	\$32,834,791	\$58,157,565	\$41,716,793	\$45,785,082
Armored conductor.....	\$5,371,342	\$11,389,839	\$11,731,032	\$10,922,376
Flexible steel conduit.....	\$365,954	\$564,794	\$557,842	\$1,197,478
Fittings for armored conductor and flexible				
steel conduit.....	\$376,431	(¹)	(¹)	(¹)
Rigid steel conduit and elbows and couplings ¹	\$15,050,597	\$26,155,379		
Other rigid conduit fittings.....	\$2,244,082	\$2,828,798	\$17,512,043	\$20,818,336
Locknuts and bushings.....	\$329,429	\$597,614	\$1,031,141	\$1,250,966
Outlet boxes and switch boxes.....	\$5,249,543	\$10,667,132	\$8,133,291	\$3,026,783
Metal raceways for surface wiring, and fittings.	\$735,616	\$1,403,731	\$1,153,213	\$992,560
Nonmetallic conduits.....	\$1,402,924	\$1,754,866	\$1,598,236	\$2,576,529
Underfloor duct and underground conduits.....	\$1,708,868	\$2,795,412	(²)	(²)

¹ Revised.² Data incomplete.³ Not called for separately on schedule.⁴ Value of fittings not called for separately; included in values of "Armored conductor" and "Flexible steel conduit," respectively.⁵ Value of finished conduit manufactured by plants which made their own steel pipe included for 1931 and 1929 but not for 1927 and 1925.

TABLE 16.—FUSES AND FUSE BLOCKS—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Aggregate value.....	\$7,761,248	\$14,036,325	\$10,891,242	\$10,392,806
Fuses, total value.....	\$6,280,072	\$11,349,783	\$8,811,050	\$8,176,342
Enclosed fuses for voltages under 125: Number.....	19,965,470	48,015,585	12,991,176	7,324,607
Value.....	\$260,427	\$751,518	\$303,247	\$244,117
Nonrenewable plug fuses, 125 volts: Number.....	58,093,421	175,203,285	83,454,545	61,814,563
Value.....	\$1,321,658	\$1,814,165	\$1,093,207	\$1,673,424
Enclosed renewable fuses, 250 and 600 volts, value.....	\$1,482,709	\$4,420,970	\$2,468,813	\$2,729,512
Renewals for fuses, 250 and 600 volts, value.....	\$250,910			
Enclosed nonrenewable fuses, 250 and 600 volts, value.....	\$610,220	\$1,242,671	\$1,172,355	\$1,593,314
Enclosed fuses for voltages higher than 600: Number.....	208,371	1471,246	121,158	117,528
Value.....	\$705,762	\$1,152,762	\$826,663	\$1,079,214
Other fuses and those not distributed by kind, and open-fuse material, value.....	\$1,648,396	\$1,967,697	\$2,046,785	\$956,761
Fuse blocks, all types, value.....	\$1,481,178	\$2,686,542	\$2,080,192	\$2,216,464

¹ Revised.

TABLE 17.—MISCELLANEOUS ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES—PRODUCTION, BY KIND AND VALUE: 1925 TO 1931

	1931	1929	1927	1925
Total value.....	\$266,843,998	\$530,973,804	\$403,993,962	\$311,247,044
Carbons:				
Brushes for electrical apparatus:				
With pigtailed.....	2,508,720	2,703,777	14,364,158	13,955,483
Plain.....	485,175	1,397,069		
Carbon specialties, carbons or electrodes for electric lighting (motion-picture projection and other), and electrodes for electric furnaces.....	6,518,176	12,948,299		
Flashlight cases (including candle type).....	2,171,325	7,050,437	4,006,891	5,248,405
Lightning arresters and choke coils, except radio and telephone.....	3,257,167	6,515,115	6,327,483	5,961,111
Miscellaneous radio parts and accessories.....	21,648,969	51,471,923	48,778,540	28,788,567
Railway signals and attachments.....	10,583,229	22,571,700	22,339,768	14,029,779
Rectifying apparatus:				
Bulb type.....	436,644	4,259,493	11,909,527	10,466,283
Other types.....	2,434,116			
Signaling apparatus, other than railway:				
Bells, buzzers, signal gongs, annunciators, burglar alarms, push buttons, door openers, and battery switches.....	2,348,239	3,893,257	6,365,456	5,080,987
Street traffic signals and accessories.....	1,141,677	1,842,183		
Other signaling devices.....	1,014,628	2,482,344	3,611,006	3,489,828
Fire-alarm apparatus.....	2,376,859	4,030,146		
Telephone and telegraph apparatus.....	113,170,244	166,293,047	121,013,184	84,432,662
Wiring supplies:				
All overhead trolley-line material, including brackets, for electric and industrial rail- ways, mines, etc.....	1,718,077	3,260,724	5,445,814	4,239,547
Pole-line hardware.....	8,620,563	19,035,753	159,832,105	1135,554,392
All electrical machinery, apparatus, and sup- plies not specified in any table in this report.....	86,410,190	221,218,477		

¹ Revised.² Not including value of electrodes made and consumed in some plants.³ Not including parts and supplies made by manufacturers of radio sets.

TABLE 18.—ELECTRICAL EQUIPMENT MADE BY ESTABLISHMENTS CLASSIFIED IN OTHER INDUSTRIES—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1925 TO 1931

[This table presents statistics for the production, so far as separately reported, of certain classes of electrically driven equipment made principally by establishments classified in the following industries: Machine Tools; Washing Machines, Wringers, Dryers, and Ironing Machines, for Household Use; Signs and Advertising Novelties; Lighting Equipment; and Refrigerators, Mechanical]

	1931	1929	1927	1925
Portable electric tools:				
Grinders, value.....	\$606, 224	\$2, 395, 279	\$2, 732, 603	\$1, 750, 233
Drills, value.....	\$2, 809, 728	\$4, 586, 469	(1)	(1)
Hammers, value.....	\$119, 442	\$648, 671	(1)	(1)
Washing machines:				
Number.....	794, 920	956, 062	759, 834	(1)
Value.....	\$39, 039, 293	\$59, 930, 902	\$55, 574, 397	(1)
Electric signs:				
Neon, value.....	\$16, 783, 098	\$11, 373, 028	\$15, 684, 708	\$11, 948, 847
Other, value.....	\$7, 208, 596	\$23, 833, 905		
Electric-lighting fixtures, value.....	\$65, 588, 063	\$129, 325, 883	\$80, 399, 661	\$62, 019, 631
Domestic electric refrigerators:				
Units complete with cabinets:				
Number reported:				
Number.....	708, 894	597, 520	307, 673	(1)
Value.....	\$90, 447, 442	\$102, 255, 594	\$71, 715, 251	(1)
Number not reported.....		\$829, 448	\$534, 801	(1)
Units complete without cabinets:				
Number.....	117, 166	67, 908	58, 633	(1)
Value.....	\$9, 240, 854	\$8, 589, 478	\$8, 774, 058	(1)

¹ No comparable data.

² Revised.

ENGINES, TURBINES, TRACTORS, WATER WHEELS, AND WINDMILLS

[A preliminary report for this industry was issued under date of Nov. 29, 1932]

Description of the industry.—This industry embraces establishments whose products of chief value fall in any one of the following five classes: (1) Steam engines (other than locomotives) and turbines; (2) internal-combustion engines of all kinds; (3) tractors and traction engines; (4) water turbines and water wheels; (5) windmills. This report does not cover the production of engines built for installation in motor vehicles or in aircraft manufactured by the same establishments, nor the production of steam turbines which are made and installed as parts of turbine-driven blowers, pumps, locomotive headlights, etc., manufactured in the same plants. The values of traction and portable steam engines include the values of the boilers on which such engines are mounted. The value of steam boilers made for sale as separate units by establishments manufacturing engines or turbines as their products of chief value is included in that of "Other products (not normally belonging to the industry) and receipts for repair and experimental work" (table 3), but the value of steam boilers made in establishments classified in other industries is not included.

At prior censuses establishments engaged primarily in the manufacture of windmills were classified separately under the industry designation "Windmills and Windmill Towers." The figures for that industry have been included in the respective items for 1929 and earlier years as given in this report.

The term "carburetor engines," as used in this report, covers all internal-combustion engines in which the fuel vapor is mixed with air by means of either a carburetor of the ordinary type or a "mixing-valve."

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1914 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and 1914 but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	204	34, 130	\$39, 233, 854	\$82, 514, 937	\$193, 962, 805	\$111, 447, 863
1929.....	214	62, 702	100, 849, 662	206, 471, 969	465, 857, 034	259, 385, 965
1927.....	231	55, 696	86, 672, 291	168, 430, 394	375, 392, 737	206, 956, 343
1925.....	235	52, 490	75, 415, 153	149, 159, 269	321, 571, 856	172, 412, 587
1923.....	265	49, 596	72, 308, 921	127, 135, 066	273, 308, 816	146, 173, 750
1921.....	320	36, 950	53, 585, 849	115, 157, 600	206, 028, 179	90, 870, 319
1919.....	401	79, 549	107, 580, 756	222, 511, 197	474, 707, 320	252, 106, 123
1914 ³	477	31, 612	22, 673, 067	34, 015, 848	77, 617, 703	43, 602, 355
Percent of increase or decrease (—):						
1929-31.....	-4.7	-45.6	-61.1	-60.0	-58.4	-57.0
1927-29.....	-7.4	12.6	16.4	22.6	24.1	25.3
1925-27.....	-1.7	6.1	14.9	12.9	16.7	20.0
1923-25.....	-11.3	5.8	4.3	17.3	17.7	18.0
1921-23.....	-17.2	34.2	34.9	10.4	32.7	60.9
1919-21.....	-20.2	-53.6	-50.2	-48.2	-56.6	-64.0
1921-31.....	-36.2	-7.6	-26.8	-28.3	-5.9	22.6
1919-29.....	-46.6	-21.2	-6.3	-7.2	-1.9	2.9
<i>States, 1931</i>						
California.....	14	867	\$1, 313, 551	\$1, 864, 512	\$4, 917, 512	\$3, 053, 000
Illinois.....	20	7, 653	9, 243, 282	21, 728, 449	44, 020, 706	22, 298, 257
Maryland.....	3	8	12, 233	9, 032	41, 320	32, 238
Massachusetts.....	7	175	236, 174	140, 593	605, 320	364, 727
Michigan.....	19	3, 721	4, 113, 994	6, 718, 198	14, 421, 095	7, 702, 897
Minnesota.....	7	352	431, 968	861, 624	1, 922, 455	1, 060, 831
Missouri.....	7	499	608, 181	608, 998	1, 856, 184	1, 187, 186
New York.....	11	1, 040	1, 411, 502	1, 006, 392	5, 056, 146	4, 049, 754
Ohio.....	26	2, 346	3, 156, 254	8, 085, 394	16, 387, 182	8, 301, 788
Pennsylvania.....	18	4, 598	5, 513, 996	8, 367, 651	18, 467, 547	10, 099, 896
Wisconsin.....	22	7, 109	5, 204, 709	10, 304, 606	39, 957, 011	23, 652, 405
Other States ⁴	50	5, 762	7, 990, 030	16, 159, 438	45, 804, 327	20, 644, 859

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ No comparable figures can be given for earlier years.

⁴ Connecticut, 9 establishments; Indiana, 6; Iowa, 6; Kansas, 2; Kentucky, 1; Maine, 1; Nebraska, 4; New Hampshire, 1; New Jersey, 9; Oklahoma, 2; Oregon, 1; Tennessee, 1; Texas, 2; Washington, 4; West Virginia, 1.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, AND 1914, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931	34,130	41,387	41,273	39,118	38,179	36,183	33,345	30,120	29,326	28,762	30,890	29,854	31,136
1929	62,702	61,123	64,024	65,702	68,035	67,712	67,126	64,918	59,466	58,145	59,192	58,797	68,185
1925	52,490	<i>46,014</i>	49,782	52,693	54,454	54,849	53,381	53,213	53,792	54,179	52,230	52,569	52,936
1919	79,549	92,103	87,249	85,055	76,929	72,062	72,040	71,345	75,255	76,824	78,897	80,303	83,526
1914	31,612	32,234	32,949	33,445	34,110	33,635	32,892	32,094	31,959	29,927	28,716	28,408	28,975
<i>States, 1931</i>													
California	867	1,095	1,136	1,087	1,085	1,068	835	775	727	623	571	583	767
Illinois	7,653	8,283	8,392	8,063	8,268	8,032	7,257	6,743	6,616	6,929	7,769	7,690	7,791
Maryland	8	8	8	8	10	9	8	8	8	8	8	7	6
Massachusetts	175	221	201	197	181	189	166	164	163	158	157	153	162
Michigan	3,721	4,057	4,225	4,440	4,432	4,530	4,013	3,800	3,693	3,156	3,049	2,674	2,575
Minnesota	352	389	394	390	357	357	380	280	266	266	324	342	355
Missouri	499	536	547	542	516	537	581	495	523	460	446	402	401
New York	1,040	1,306	1,240	1,214	1,205	1,082	933	904	909	899	947	907	940
Ohio	2,346	3,146	3,202	3,037	2,856	2,376	2,100	2,074	2,172	2,021	1,740	1,664	1,702
Pennsylvania	4,598	4,958	5,289	5,263	4,998	4,811	4,771	4,411	4,158	4,495	4,282	3,901	3,839
Wisconsin	7,109	8,577	8,860	7,385	7,214	7,075	6,652	5,345	5,437	5,264	7,291	7,346	7,859

1 No comparable figures can be given for years prior to 1914.

TABLE 3.—PRODUCTS, BY CLASS, TYPE, NUMBER, HORSEPOWER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9]

CLASS AND TYPE	1931	1929	1927	1925
1. Engines, turbines, tractors, water wheels, and Windmills industry, all products, total value	\$193,962,805	\$165,857,934	\$375,392,737	\$321,571,856
2. Engines, turbines, tractors, water wheels, and windmills	\$129,413,468	\$351,105,935	\$276,509,002	\$220,573,810
3. Parts for sale as such	\$43,263,953	\$58,777,407	\$51,261,094	\$53,689,692
4. Other products (not normally belonging to the industry) and receipts for repair and experimental work	\$21,285,384	\$55,974,592	\$47,622,641	\$47,308,354
5. Engines, turbines, tractors, water wheels, and windmills, made as secondary products in other industries	\$19,389,122	\$54,705,900	\$33,356,521	\$47,733,608
Engines, turbines, tractors, water wheels, and windmills, all industries:				
Aggregate value (sum of 2 and 5)	\$148,802,590	\$405,811,835	\$309,865,523	\$268,307,418
Steam engines (except traction) and turbines, total value	\$14,883,425	\$32,414,975	\$22,572,926	\$24,411,344

See footnotes at end of table.

TABLE 3.—PRODUCTS, BY CLASS, TYPE, NUMBER, HORSEPOWER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931—Continued

[See note at head of table]

CLASS AND TYPE	1931	1929	1927	1925
Engines, turbines, tractors, water wheels, and windmills, all industries—Continued.				
Steam engines (except traction) and turbines—Continued.				
Steam engines (reciprocating), total value.....	\$2, 117, 526	\$5, 136, 696	\$7, 108, 845	\$8, 598, 599
Reported by number and horsepower:				
Number.....	534	1, 528	2, 020	2, 328
Horsepower.....	79, 723	179, 577	237, 435	298, 311
Value.....	\$1, 775, 134	\$3, 511, 271	\$4, 582, 032	\$4, 995, 392
Not reported by number or horsepower.....	\$342, 392	\$1, 625, 425	\$2, 525, 913	\$3, 603, 207
Marine (reciprocating):				
Number.....	22			
Horsepower.....	17, 050			
Value.....	\$493, 495			
Other reciprocating steam engines, total value.....	\$1, 624, 031			
Reported by number and horsepower:		(²)	(²)	(²)
Number.....	512			
Horsepower.....	62, 673			
Value.....	\$1, 281, 639			
Not reported by number or horsepower.....	\$342, 392			
Steam turbines, total value.....	\$12, 765, 899	\$27, 278, 279	\$15, 464, 081	\$14, 054, 879
Reported by number and horsepower:				
Number.....	1, 653	3, 320	2, 363	2, 475
Horsepower.....	1, 586, 893	3, 218, 206	2, 409, 267	1, 111, 888
Value.....	\$12, 676, 206	\$25, 934, 420	\$14, 998, 208	\$9, 125, 801
Not reported by number or horsepower.....	\$89, 693	\$1, 343, 859	\$465, 873	\$4, 926, 078
Marine:				
Number.....	100			
Horsepower.....	657, 488			
Value.....	\$4, 339, 091			
Other than marine, total value.....	\$8, 426, 808			
Reported by number and horsepower:		(²)	(²)	(²)
Number.....	1, 553			
Horsepower.....	929, 405			
Value.....	\$8, 337, 115			
Not reported by number or horsepower.....	\$89, 693			
Not reported according to type.....				\$1, 757, 866
Internal-combustion engines except tractors, total value.....	\$68, 278, 962	\$166, 633, 777	\$141, 161, 281	\$117, 893, 644
Injection type—Diesel (compression-ignition) and semi-Diesel (surface-ignition), total value.....	\$11, 853, 920	\$26, 798, 914	\$20, 408, 623	\$23, 227, 645
Reported by number and horsepower:				
Number.....	1, 473	3, 588	3, 245	4, 101
Horsepower.....	264, 037	485, 327	367, 540	409, 399
Value.....	\$11, 811, 975	\$26, 596, 390	\$20, 287, 567	\$21, 979, 617
Not reported by number or horsepower.....	\$41, 945	\$202, 524	\$121, 066	\$1, 248, 028
Diesel, marine (for direct connection to propeller shaft):				
Number.....	569			
Horsepower.....	104, 813			
Value.....	\$4, 875, 771	(¹)	(¹)	(²)

See footnotes at end of table.

TABLE 3.—PRODUCTS, BY CLASS, TYPE, NUMBER, HORSEPOWER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931—Continued

[See note at head of table]

CLASS AND TYPE	1931	1929	1927	1925
Engines, turbines, tractors, water wheels, and windmills, all industries—Continued.				
Internal-combustion engines except tractors—Continued.				
Injection type—Diesel and semi-Diesel—Continued.				
Diesel, other than marine, total value	\$6,447,547			
Reported by number and horsepower:		(³)	(³)	(²)
Number	718			
Horsepower	143,505			
Value	\$6,405,602			
Not reported by number or horsepower	\$41,945			
Semi-Diesel:				
Number	186			
Horsepower	15,650			
Value	\$530,602			
Carburetor type ⁴ (gasoline, kerosene, and gas), except tractors, total value	\$56,425,042	\$139,834,863	\$120,752,058	\$94,665,999
Aircraft engines: ⁵				
Number	3,794	6,276	1,400	(⁷)
Horsepower	1,342,535	(⁹)	471,770	(⁷)
Value	\$13,779,791	\$24,966,063	\$9,493,656	(⁷)
Marine, inboard, total value	\$5,527,827	\$7,111,135	\$7,370,649	\$8,833,105
Reported by number and horsepower:				
Number	8,485	10,493	9,368	12,888
Horsepower	535,794	605,104	414,448	473,478
Value	\$5,524,395	\$6,863,530	\$7,348,841	\$8,429,707
Not reported by number or horsepower	\$3,432	\$247,605	\$21,808	\$403,398
Marine, outboard, total value	\$2,351,992	\$7,852,298	\$5,553,216	\$2,560,639
Reported by number and horsepower:				
Number	22,161	58,456	46,957	24,628
Horsepower	203,051	802,791	182,712	64,008
Value	\$2,152,430	\$7,852,298	\$5,553,216	\$2,203,932
Not reported by number or horsepower	\$199,562			\$356,707
Motor-vehicle:				
Total number	130,272	279,611	324,858	⁸ 304,151
Total horsepower	6,567,007	10,029,629	9,841,167	⁸ 6,737,478
Total value	\$18,792,304	\$50,654,294	\$63,635,746	⁸ \$55,623,879
Automobile (including taxicab, light truck, and light bus): ⁶				
Number	119,787			
Horsepower	5,816,705			
Value	\$16,073,997			
Heavy truck and heavy bus: ⁶		(²)	(²)	(²)
Number	10,485			
Horsepower	750,302			
Value	\$2,718,307			
Carburetor engines other than aircraft, marine, and motor-vehicle, ⁴ total:				
Reported by number and horsepower:				
Number	109,299	312,069	224,200	202,159
Horsepower	1,240,652	3,913,385	1,994,419	1,079,594
Value	\$15,639,247	\$47,783,962	\$34,089,228	\$26,637,641
Not reported by number or horsepower	\$333,881	\$1,467,091	\$610,163	\$1,010,735
Railway-car:				
Number	1,221			
Horsepower	23,704	(¹)	(²)	(¹)
Value	\$832,257			

See footnotes at end of table.

TABLE 3.—PRODUCTS, BY CLASS, TYPE, NUMBER, HORSEPOWER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931—Continued

[See note at head of table]

CLASS AND TYPE	1931	1929	1927	1925
Engines, turbines, tractors, water wheels, and windmills, all industries—Continued				
Internal-combustion engines (except tractors)—Continued				
Carburetor type (gasoline, kerosene, and gas)—Continued				
Carburetor engines other than aircraft, marine, and motor vehicle—Continued				
Industrial, total value.....	\$12,288,982			
Portable:				
Number.....	50,743			
Horsepower.....	412,645			
Value.....	\$4,613,305			
Stationary:				
Number.....	18,420	(3)	(3)	(3)
Horsepower.....	240,177			
Value.....	\$5,730,754			
Portable and stationary not separately reported, total value.....	\$1,944,923			
Reported by number and horsepower:				
Number.....	17,026			
Horsepower.....	110,765			
Value.....	\$1,611,042			
Not reported by number or horsepower.....	\$333,881			
Other:				
Number.....	15,880			
Horsepower.....	453,361			
Value.....	\$2,851,889			
Tractors, total value.....	\$57,536,948	\$196,096,780	\$136,949,650	\$102,904,828
Wheel type, total:				
Reported by number and horsepower:				
Number.....	62,976	196,185		
Horsepower ¹⁰	667,282	4,832,277		
Value.....	\$43,004,592	\$142,305,603		
Not reported by number or horsepower.....	\$596,058			
Wheel type, other than "all purpose," total value.....	\$28,037,607			
Reported by number and horsepower:				
Number.....	37,396			
Horsepower ¹⁰	1,149,831			
Value.....	\$27,605,647			
Not reported by number or horsepower.....	\$431,960			
Wheel type, "all purpose," total value.....	\$15,563,043	(3)	196,167 4,728,965 \$136,135,554	165,485 3,783,458 \$102,389,526
Reported by number and horsepower:				
Number.....	25,580			
Horsepower ¹⁰	517,451			
Value.....	\$15,398,945			
Not reported by number or horsepower.....	\$164,098			
Track-laying type, total value.....	\$13,305,886			
Reported by number and horsepower:				
Number.....	7,284	27,111		
Horsepower ¹⁰	294,218	867,975		
Value.....	\$13,244,202	\$53,676,569		
Not reported by number or horsepower.....	\$61,684			

See footnotes at end of table.

TABLE 3.—PRODUCTS, BY CLASS, TYPE, NUMBER, HORSEPOWER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931—Continued

[See note at head of table]

CLASS AND TYPE	1931	1929	1927	1925
Engines, turbines, tractors, water wheels, and windmills, all industries—Continued.				
Tractors—Continued.				
Garden tractors:				
Number.....	2,933	6,277	5,591	3,456
Horsepower ¹⁰	7,353	16,728	23,062	8,690
Value ¹¹	\$630,412	\$1,014,608	\$814,096	\$515,392
Water wheels and water turbines, total value.....	\$6,889,351	\$5,027,907	\$5,440,999	\$5,338,066
Water wheels:				
Number.....	50	¹² 181		"
Horsepower.....	1,997	¹² 129,495		
Value.....	\$157,348	¹² \$721,142		
Water turbines:				
Reported by number and horsepower:			(3)	(3)
Number.....	172	¹² 142		
Horsepower.....	950,315	¹² 673,039		
Value.....	\$6,732,003	¹² \$3,139,327		
Not reported by number or horsepower.....		\$1,167,438		
Engines and turbines not reported by class and type, value.....		\$674,985	\$413,999	\$13,706,781
Windmills:				
Number.....	35,947	96,474	79,213	100,439
Value.....	\$1,213,904	\$4,063,411	\$3,326,668	\$4,052,755

¹ Revised; see second paragraph of text.

² Withheld to avoid disclosing approximations of data for individual establishments.

³ Not called for separately on schedule.

⁴ See last paragraph of text, p. 975.

⁵ See "Description of the industry," p. 975.

⁶ Data incomplete.

⁷ Included in figure for motor-vehicle engines to avoid disclosing approximations of data for individual establishments.

⁸ Includes data for a small number of aircraft engines. See footnote 7.

⁹ Includes a relatively small amount of duplication, representing the value of engines made in one plant and installed in tractors made in another plant under the same ownership. The value of such engines cannot be given without disclosing data for an individual establishment.

¹⁰ Belt horsepower.

¹¹ The figures for 1931 include data for a small number of steam traction engines for which separate figures cannot be given without disclosing approximations of the numbers and values reported by individual establishments. The figures for earlier years are as follows: For 1929, value, \$43,858 (number not reported); 1927, 44, valued at \$113,200; 1925, 101, valued at \$257,623.

¹² Revised.

TABLE 4.—PRODUCTS, BY CLASS, TYPE, NUMBER, HORSEPOWER IN DETAIL, AND VALUE, FOR THE UNITED STATES: 1931

[This table covers all engines, turbines, tractors, and water wheels for which rated capacity was reported in detail. For value of engines, etc., for which number and horsepower were not reported, see table 3.]

CLASS AND TYPE	TOTAL		NUMBER, BY HORSEPOWER CAPACITY, RATED OR NORMAL, NOT OVERLOAD										
	Number	Rated horsepower capacity	Value	Less than 5	5 or more but under 10	10 or more but under 20	20 or more but under 50	50 or more but under 100	100 or more but under 200	200 or more but under 400	400 or more but under 1,000	1,000 or more but under 5,000	5,000 or over
Steam engines (except traction) and turbines:													
Marine (reciprocating).....	22	17,050	\$493,405										
Other reciprocating steam engines.....	512	62,673	1,281,639	61	94	84	84	54	53		13	7	
Marine turbines.....	100	637,488	4,333,001								32	13	
Other than marine.....	1,553	920,405	8,337,115	205	189	196	271	192	166	136	24	40	36
Internal-combustion engines except tractors:											119	53	26
Injection type:													
Diesel (compression-ignition):													
Marine (for direct connection to propeller shaft).....	569	104,813	4,875,771			5	128	121	165	84	58	8	
Diesel other than marine.....	718	143,565	6,405,602		47	49	82	160	136	128	80	16	
Semi-Diesel (surface-ignition).....	186	15,659	530,002		18	52	77	16	10	1	6	6	
Carburetor type: (gasoline, kerosene, and gas):													
Aircraft engines.....	3,794	1,342,535	13,770,791				499	212	492	552	2,039		
Marine, inboard.....	8,485	535,794	5,524,316	151	507	1,042	4,173	1,178	517	601	224	2	
Marine, outboard.....	22,161	203,051	2,152,430	12,043	4,064	2,486	3,440	132					
Automobile (including taxicab, light truck, and light bus).....	119,787	5,816,705	16,073,937			7,046	74,036	36,338	1,412	55			
Heavy truck and heavy bus.....	10,485	750,302	2,718,307				709	9,077	699				
Railway-car.....	1,221	23,704	832,257	221	870	57	31	5		29	8		
Industrial:													
Portable.....	56,743	412,645	4,613,305	45,582	1,606	1,085	6,786	1,577	102	5			
Stationary.....	18,420	240,177	5,730,754	15,473	1,283	120	342	682	390	84	39	37	
Portable and stationary not reported separately.....	17,026	110,765	1,611,042	13,765	1,175	123	1,753	210					
Other.....	15,889	453,361	2,851,889	1,018	1,311	3,334	9,015	1,072	130	9			

Tractors: 4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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1 See last paragraph of text, p. 975.

¹ See last paragraph of text, p. 975.
² Not including engines built for installation in aircraft manufactured by same establishments.
³ Not including engines built for installation in motor vehicles manufactured by same establishments.

^a Not including engines built in

• Ratings in belt horsepower.

- Includes a small number of

individual establishments.

¹ See last paragraph of text, p. 975.

2 Not including engines built for installation in aircraft manufactured by same establishments.

^a Not including engines built in

* Ratings in belt horsepower.

- Ratings in belt horsepower.
- Includes a small number of

Includes a small number of individual establishments.

FOUNDRY AND MACHINE-SHOP PRODUCTS NOT ELSEWHERE CLASSIFIED

Description of the industry.—This industry, as constituted for census purposes, embraces the manufacture of those products of boiler shops, foundries, and machine shops which are not assigned to special classifications. The foundry, as the term is ordinarily defined, is an establishment in which metal is cast into various shapes, and the machine shop is an establishment in which work is done by means of machine tools—that is, power-driven tools used in cutting and shaping metals. Some of the establishments which employ foundry and machine-shop processes, however, specialize in the manufacture of specific classes of products. In cases where a group of establishments thus specialize and manufacture all or the greater part of the total output of a certain commodity or class of commodities, such establishments are assigned, for census purposes, to a specific industry classification designated according to the use or the nature of the products. On the other hand, many foundries and machine shops manufacture a great variety of products. Moreover, while certain establishments employing foundry and machine-shop processes are engaged wholly or mainly in the manufacture of well-defined classes of commodities, large quantities of similar commodities are made by other establishments which also manufacture products wholly different in character. It has been necessary, therefore, in order to avoid excessive overlapping among the industries, to establish a very broad classification, "Foundry and Machine-Shop Products Not Elsewhere Classified," which embraces, so far as practicable, those lines of manufacture which employ foundry and machine-shop processes but which cannot be clearly segregated from one another. Nevertheless, despite its comprehensiveness, a great deal of overlapping occurs between this classification and a number of others.

The foundry and machine-shop departments of establishments engaged primarily in the manufacture of nonferrous-metal commodities are not classified in this industry, but are assigned to the "Nonferrous-Metal Alloys; Nonferrous-Metal Products, Except Aluminum, Not Elsewhere Classified" industry or the "Aluminum Manufactures" industry, as the case may be.

Comparison with earlier years.—As the scope of this industry classification has been changed somewhat from time to time within the periods covered by tables 1 and 2, the statistics for the several years are not in all cases strictly comparable. This applies particularly to comparisons between 1914 and later years and between 1927 and later years. Two sets of figures for 1927 are, therefore, presented in table 1—one (in roman type) for comparison with 1925 and earlier years and the other (in italics) for comparison with 1929 and 1931. The adjustment for comparison with 1929 was made because of the transfer of certain establishments to the newly created industry classification "Machine-Tool Accessories and Small Metal-Working Tools,

Not Elsewhere Classified" (now "Machine-Tool Accessories and Machinists' Precision Tools and Instruments").

At former censuses establishments engaged in the processing of iron and steel were separately classified under the industry designation "Iron and Steel, Processed," but such establishments are now assigned to the Foundry and Machine-Shop Products industry.

Detailed statistics of products.—Table 3, page 990, shows separately, so far as is practicable from the returns received from the manufacturers, the values of the major classes of products manufactured in 1929 and 1931. Industrial and other machinery is the principal product of the industry. The total output of the principal classes of machinery, by all industries in which manufactured, is given in the report entitled "Machinery." No data for machinery made for installation in the plants in which manufactured are included either in this report or in the Machinery report.

Ball and roller bearings.—A special schedule calling in detail for data on the production of ball and roller bearings for sale as such was used for the first time at the census for 1931. For this reason it is impossible to give, in table 5, comparable figures for 1929.

Valves, faucets, and fittings.—Data for the commodities belonging to this group were called for on the schedules for the five industries which produce the bulk of them; namely, (1) Plumbers' Supplies, (2) Nonferrous-Metal Alloys and Products, (3) Cast-iron Pipe and Fittings, (4) Foundry and Machine-Shop Products, and (5) Steam and Hot-water Heating Apparatus and Steam Fittings. The figures in table 6 include data for the production of valves, etc., specifically reported in certain cases by manufacturers in industries other than the five named, but they do not include data for the production by some manufacturers in the Plumbers' Supplies industry who failed to distribute their figures according to the classification on the schedule but reported their entire output as "Other plumbers' brass goods." Furthermore, the figures for fittings may include data for some valves and faucets which were not reported separately.

Contract and repair work.—Many establishments reported their entire output under "Amount received for products manufactured on contract, the processing of iron and steel, and machine-shop repair work" (the final item in table 3). The contract work covers boiler-shop products, castings, machinery, and miscellaneous machine-shop products made on contract for the individual customer.

Classes of establishments in the industry.—The statement below shows, for 1931, 1929, and 1927, the classes and numbers of establishments engaged primarily in the manufacture of boiler-shop, foundry, and machine-shop products. The figures given do not, however, include a count of the boiler-shop, foundry, and machine-shop departments of establishments engaged primarily in the manufacture of specific classes of products assigned to other industries. (See "Description of the industry," p. 984.)

CLASS	1931	1929	1927
Total number of establishments.....	7, 221	8, 605	8, 380
Boiler shops.....	256	521	366
Foundries (establishments producing castings for sale).....	1, 053	1, 266	1, 252
Machine shops, total.....	5, 463	6, 096	6, 662
Establishments engaged primarily in the manufacture of machinery for sale.....	2, 998	6, 096	6, 062
Establishments engaged primarily in the manufacture of miscellaneous machine-shop products other than machinery (see table 3).....	1, 444		
Establishments engaged primarily in contract and repair work.....	1, 021		
Machine shops and foundries combined (establishments reporting both the production of castings for sale and the operation of machine shops).....	449	692	760

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1914 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and 1914 but not for 1921 and subsequent years. See sec. 3d, p. 4]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	7, 221	284, 909	\$328, 459, 306	\$452, 551, 064	\$1, 266, 619, 273	\$814, 065, 209
1929.....	8, 605	454, 441	697, 508, 589	1, 038, 066, 092	2, 791, 461, 904	1, 753, 395, 572
1927.....	8, 095	598, 672	590, 924, 020	878, 777, 144	2, 268, 653, 217	1, 389, 882, 673
1925.....	8, 380	403, 939	601, 022, 908	883, 651, 734	2, 291, 543, 110	1, 407, 691, 376
1923.....	8, 203	403, 832	600, 021, 745	894, 406, 446	2, 264, 375, 979	1, 369, 969, 533
1921.....	8, 531	448, 777	642, 431, 394	936, 231, 003	2, 337, 072, 775	1, 400, 541, 772
1919.....	9, 013	321, 363	412, 359, 408	653, 363, 807	1, 565, 526, 944	912, 163, 137
1917.....	10, 934	452, 767	622, 571, 129	948, 069, 381	2, 289, 250, 859	1, 341, 181, 478
1914.....	10, 640	362, 471	244, 146, 380	358, 121, 781	866, 544, 677	508, 422, 596
Percent increase or decrease (-):						
1929-31.....	-16.1	-37.3	-52.9	-56.4	-54.6	-53.6
1927-29.....	6.3	14.0	18.0	18.1	23.0	26.2
1925-27.....	2.2	(9)	0.2	-1.2	1.2	2.8
1923-25.....	-3.8	-10.0	-6.6	-4.5	-3.1	-2.2
1921-23.....	-5.3	39.6	55.8	43.3	49.3	53.6
1919-21.....	-17.6	-33.4	-33.8	-31.1	-31.6	-32.0
<i>States, 1931</i>						
Alabama.....	53	1, 780	\$1, 698, 339	\$3, 041, 567	\$6, 714, 223	\$3, 672, 656
Arizona.....	8	94	122, 536	105, 114	378, 284	273, 170
Arkansas.....	22	271	267, 001	354, 945	1, 064, 213	709, 268
California.....	527	7, 884	11, 647, 329	10, 492, 651	43, 753, 339	27, 260, 688
Colorado.....	63	1, 082	1, 163, 221	1, 893, 538	5, 130, 598	3, 237, 060
Connecticut.....	160	11, 904	13, 184, 772	13, 221, 754	46, 727, 065	33, 505, 311
Delaware.....	18	1, 037	1, 201, 703	1, 861, 119	3, 644, 096	1, 782, 977
District of Columbia.....	6	74	132, 528	111, 954	337, 632	225, 578
Florida.....	29	307	310, 782	488, 054	1, 175, 146	687, 092
Georgia.....	63	1, 880	1, 454, 267	2, 231, 503	5, 278, 978	3, 047, 475
Idaho.....	9	73	112, 802	103, 269	287, 859	184, 590
Illinois.....	683	26, 250	31, 625, 109	46, 834, 250	132, 718, 325	85, 884, 075
Indiana.....	267	14, 494	15, 256, 950	21, 936, 074	63, 768, 214	41, 832, 140
Iowa.....	105	2, 836	3, 949, 553	5, 778, 437	14, 254, 732	8, 476, 295
Kansas.....	52	1, 466	1, 523, 614	2, 204, 319	5, 609, 809	3, 405, 490
Kentucky.....	61	1, 989	2, 028, 355	3, 160, 141	7, 871, 425	4, 705, 284
Louisiana.....	48	863	963, 830	1, 185, 833	3, 481, 093	2, 295, 260
Maine.....	29	857	913, 424	757, 567	2, 315, 856	1, 558, 289
Maryland.....	90	3, 750	3, 678, 136	7, 725, 394	16, 642, 522	8, 917, 128
Massachusetts.....	414	14, 748	18, 841, 627	17, 806, 400	60, 143, 267	42, 336, 867

For footnotes, see end of table.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1914 TO 1931, AND FOR STATES, 1931—Continued

[Data for establishments with products under \$5,000 in value are included for 1919 and 1914 but not for 1921 and subsequent years. See sec. 3d, p. 4]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>States, 1931—Continued</i>						
Michigan.....	401	29,934	\$34,046,113	\$33,022,884	\$114,185,998	\$81,163,114
Minnesota.....	150	3,706	4,544,257	7,159,103	20,571,657	13,412,554
Mississippi.....	20	175	219,192	116,517	497,809	381,292
Missouri.....	219	5,060	6,133,697	9,415,360	26,144,045	16,728,685
Montana.....	10	181	265,368	280,485	686,830	406,345
Nebraska.....	30	429	602,765	1,124,432	3,128,035	2,003,603
New Hampshire.....	31	1,316	1,366,663	983,990	3,561,070	2,677,080
New Jersey.....	296	14,296	18,612,849	22,301,683	66,617,688	44,226,005
New York.....	778	30,362	35,878,002	43,398,980	136,020,815	92,621,835
North Carolina.....	48	555	535,426	437,247	1,386,502	949,255
North Dakota.....	5	63	87,413	208,207	385,878	177,671
Ohio.....	725	36,704	42,593,577	67,515,964	179,013,500	111,497,536
Oklahoma.....	63	860	993,874	1,680,993	4,052,774	2,371,781
Oregon.....	80	1,185	1,688,688	2,052,017	5,603,675	3,551,658
Pennsylvania.....	811	37,855	41,293,643	63,017,036	155,662,448	92,645,412
Rhode Island.....	36	1,428	1,212,473	2,368,171	5,615,838	3,247,667
South Carolina.....	12	160	160,371	80,499	288,951	208,452
South Dakota.....	5	20	47,922	51,668	134,509	82,841
Tennessee.....	56	2,091	1,861,143	3,300,386	7,998,721	4,688,335
Texas.....	166	4,187	4,399,771	5,647,530	16,212,883	10,565,353
Utah.....	17	261	284,396	557,276	1,278,786	721,510
Vermont.....	22	483	537,102	439,518	1,562,431	1,122,913
Virginia.....	52	792	891,509	1,197,621	3,120,790	1,923,169
Washington.....	154	1,685	2,247,868	2,358,277	6,611,239	4,252,992
West Virginia.....	55	1,084	1,246,606	2,046,726	4,429,062	2,382,336
Wisconsin.....	265	16,258	17,121,547	34,248,642	80,247,634	45,998,992
Nevada.....	4	63	91,193	149,969	313,129	163,160
New Mexico.....	3					
Wyoming.....	1					

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.
² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.
³ Adjusted for comparison with 1929 and 1931. See "Comparison with earlier years," p. 984.
⁴ Figures for 1914 not strictly comparable with those for later years. No comparable figures available for earlier years.

⁵ Less than one-tenth of 1 percent.
⁶ Combined to avoid disclosing, exactly or approximately, the data reported by individual establishments. One of these States, Wyoming, is more important in the industry than South Dakota, for which separate figures are given.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, AND 1914, AND FOR STATES, 1931
 [The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

Average number employed during year	NUMBER REPORTED FOR—											
	January	February	March	April	May	June	July	August	September	October	November	December
<i>United States</i>												
1931.....	313,072	313,374	313,646	312,253	306,765	292,041	281,349	266,709	266,063	255,646	250,149	247,845
1929.....	436,416	448,884	458,172	448,172	472,217	470,263	467,088	464,772	459,608	451,701	432,205	421,660
1925.....	403,832	389,365	396,454	401,689	404,211	405,614	406,250	405,688	407,945	412,681	414,010	419,376
1919.....	432,767	431,403	462,683	459,435	454,222	456,629	471,149	482,060	491,802	503,769	518,850	530,438
1914.....	350,030	350,565	364,214	383,296	377,960	372,043	367,430	390,118	345,894	338,380	328,974	330,742
<i>States, 1931</i>												
Alabama.....	1,837	1,920	1,968	1,884	1,916	1,872	1,851	1,872	1,671	1,550	1,423	1,595
Arizona.....	118	114	117	117	103	100	75	75	70	82	75	80
Arkansas.....	200	266	270	282	289	292	285	272	270	264	253	245
California.....	9,137	8,691	8,879	8,987	8,614	7,924	7,670	7,384	7,161	7,108	6,491	6,275
Colorado.....	1,242	1,240	1,210	1,146	1,123	1,110	1,106	1,053	1,011	972	871	900
Connecticut.....	11,904	12,684	12,769	12,638	12,492	12,138	11,738	11,459	11,156	11,080	10,975	11,046
Delaware.....	1,037	1,072	1,087	1,067	1,169	1,138	1,096	1,012	79	877	892	939
District of Columbia.....	74	67	67	72	74	81	79	79	74	75	76	67
Florida.....	307	301	298	303	310	330	299	274	274	361	331	284
Georgia.....	1,880	1,895	1,923	1,943	1,965	1,971	2,017	1,982	1,865	1,763	1,713	1,617
Idaho.....	73	70	68	74	75	74	75	74	77	77	75	74
Illinois.....	26,250	28,492	28,396	27,870	27,496	26,652	26,264	25,649	24,932	24,217	23,703	23,145
Indiana.....	14,494	15,053	15,462	15,940	15,894	14,803	14,709	14,136	13,741	13,246	13,189	12,719
Iowa.....	2,886	3,237	3,542	3,530	3,674	3,880	3,927	2,719	2,784	2,529	2,398	2,370
Kansas.....	1,466	1,522	1,578	1,577	1,685	1,586	1,507	1,473	1,409	1,270	1,263	1,263
Kentucky.....	1,989	2,180	2,042	2,045	1,886	1,860	1,815	1,805	2,040	1,977	1,969	1,914
Louisiana.....	863	912	882	877	884	871	933	910	907	799	759	741
Maine.....	857	899	925	901	920	857	822	807	796	778	766	741
Maryland.....	3,759	3,932	3,953	4,033	4,038	3,916	3,794	3,655	3,651	3,688	3,370	3,047
Massachusetts.....	14,748	15,739	15,865	15,712	15,421	14,987	14,681	14,130	13,951	13,763	13,451	13,165
Michigan.....	29,934	35,152	35,384	35,764	36,047	31,583	28,283	23,695	27,081	22,978	24,991	25,253
Minnesota.....	3,706	4,090	4,009	3,887	3,960	3,804	3,692	3,517	3,432	3,400	3,358	3,508
Mississippi.....	3,175	184	150	166	172	173	171	183	183	168	160	160
Missouri.....	5,060	5,299	5,241	5,419	5,379	5,429	5,230	4,957	4,539	4,621	4,426	4,489
Montana.....	181	105	180	181	176	178	184	188	193	192	189	186

Nbraska.....	429	441	453	459	444	458	439	430	423	404	387	377
New Hampshire.....	1,316	1,530	1,545	1,513	1,440	1,398	1,290	1,220	1,156	1,097	1,058	1,055
New Jersey.....	14,206	18,900	15,732	15,553	15,117	14,553	13,496	13,282	12,943	12,926	12,676	12,568
New York.....	30,392	32,902	33,556	33,251	32,210	30,704	29,002	27,918	25,353	27,810	27,367	26,987
North Carolina.....	560	565	541	563	566	549	551	560	572	533	541	540
North Dakota.....	63	58	55	56	61	58	63	66	75	78	66	66
Ohio.....	36,704	40,292	40,808	40,368	39,676	38,094	36,540	34,863	34,500	32,924	30,885	30,789
Oklahoma.....	869	953	1,051	1,073	946	923	837	741	704	715	724	709
Oregon.....	1,185	1,247	1,283	1,448	1,348	1,320	1,367	1,141	1,034	986	942	897
Pennsylvania.....	37,855	41,771	41,232	40,569	39,371	37,926	36,603	35,960	35,422	34,800	34,580	33,822
Rhode Island.....	1,428	1,518	1,528	1,491	1,461	1,467	1,430	1,375	1,308	1,349	1,317	1,322
South Carolina.....	160	161	164	169	162	166	159	165	164	159	149	152
South Dakota.....	30	30	31	31	30	29	29	30	29	29	27	27
Tennessee.....	2,091	2,139	2,180	2,180	2,202	2,108	2,159	2,058	2,039	2,009	2,029	1,706
Texas.....	4,187	5,164	4,982	4,972	4,587	4,310	4,093	3,598	3,530	3,509	3,322	3,502
Utah.....	261	258	269	249	273	251	250	262	233	231	249	232
Vermont.....	483	490	526	527	500	470	481	513	485	435	419	415
Virginia.....	702	737	835	847	824	820	836	807	773	748	733	685
Washington.....	1,686	1,707	1,835	1,901	1,854	1,823	1,758	1,725	1,611	1,421	1,274	1,268
West Virginia.....	1,084	1,084	1,174	1,135	1,183	1,158	1,147	1,062	986	966	913	877
Wisconsin.....	17,853	17,565	17,816	17,865	17,430	16,671	16,164	15,480	15,019	14,480	14,004	14,447
Nevada, New Mexico, and Wyoming.....	53	50	63	67	68	72	66	64	60	60	53	58

1 No comparable figures available for years prior to 1914.

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1931 AND 1929

[The figures for 1931 represent production; those for 1929 refer to sales (shipments or deliveries) by manufacturers]

KIND	1931	1929
1. "Foundry and Machine Shop Products Not Elsewhere Classified" industry, all products, total value.....	\$1,266,619,273	\$2,791,461,964
2. Foundry and machine-shop products, not elsewhere classified, value.....	1,203,821,842	2,653,571,063
3. Other products (not normally belonging to the industry), value.....	57,797,431	137,890,901
4. Foundry and machine-shop products classified in this industry, made as secondary products in other industries, value.....	153,596,501	316,270,186
Foundry and machine-shop products (machinery, industrial boilers, smokestacks, tanks, castings, ball and roller bearings, and miscellaneous machine-shop products), all industries: Aggregate value (sum of 2 and 4).....	1,362,418,343	2,969,841,249
Boiler-shop products: Boilers (industrial), total value.....	\$16,478,359	\$34,722,032
Number reported: Number.....	14,449	29,477
Value.....	\$16,032,395	\$34,003,377
Number not reported, value.....	\$445,964	\$718,655
Smokestacks, total value.....	\$1,771,461	\$3,822,658
Number reported: Number.....	4,570	12,341
Value.....	\$1,115,554	\$3,793,977
Number not reported, value.....	\$655,907	\$28,681
Tanks (iron and steel), total value.....	\$36,843,132	\$70,785,445
Iron: Number reported: Number.....	1,179	
Value.....	\$1,157,785	
Number not reported, value.....	\$277,128	
Steel: Number reported: Number.....	258,220	444,423
Value.....	\$25,961,943	\$63,501,210
Number not reported, value.....	\$0,074,038	\$7,284,235
Not distributed: Number reported: Number.....	18,703	
Value.....	\$1,033,031	
Number not reported, value.....	\$1,688,007	
Other boiler-shop products, value.....	\$10,969,517	\$47,812,443
Castings: Gray-iron, including semisteel: Tons.....	2,390,495	5,070,846
Value.....	\$174,197,327	\$375,508,194
Malleable-iron: Tons.....	299,206	735,225
Value.....	\$35,294,201	\$101,108,837
Rolls for rolling mills: Gray-iron: Tons.....	66,462	120,074
Value.....	\$7,935,177	\$14,533,031
Steel: Tons.....	32,464	45,752
Value.....	\$5,413,104	\$6,852,598
Machinery, total value ¹	\$563,250,887	\$1,184,769,123
Reported by specified classes, value.....	\$505,498,400	\$1,020,067,958
Machinery other than specified classes, value.....	\$57,752,487	\$158,701,165
Machine parts and attachments, value.....	\$52,193,329	\$89,579,655
Miscellaneous machine-shop products: Ball bearings and parts, value ¹	\$28,309,509	\$66,880,624
Roller bearings and parts, value ¹	\$22,218,578	\$53,153,188
Flexible metallic tubing and hose, value.....	\$1,618,299	\$4,165,484
Gears, except motor-vehicle, total value.....	\$14,143,372	\$30,325,542
Quantity reported: Tons.....	14,287	39,699
Value.....	\$3,937,001	\$16,170,314
Quantity not reported, value.....	\$10,266,371	\$14,155,228
Industrial furnaces, value.....	\$3,266,542	(²)
Industrial oil burners, total value.....	\$2,234,741	\$4,305,921
Number reported: Number.....	12,088	
Value.....	\$1,200,198	
Number not reported, value.....	\$944,543	\$4,305,921

For footnotes, see end of table.

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, AND VALUE FOR THE UNITED STATES: 1931 AND 1929—Continued.

[See note at head of table.]

KIND	1931	1929
Foundry and machine-shop products—Continued.		
Miscellaneous machine-shop products—Continued.		
Piston rings, for sale:		
Number.....	173,896,156	281,539,500
Value.....	\$13,114,915	\$20,137,709
Water softeners, total value.....	\$2,283,851	
Number reported:		(²)
Number.....	7,689	
Value.....	\$1,814,042	
Number not reported, value.....	\$469,809	
Flat-bright cold-rolled strip steel, total value.....	\$41,273,993	\$83,647,021
Widths 6 inches and narrower:		
Tons.....	166,071	348,480
Value.....	\$19,155,441	\$39,536,721
Widths more than 6 inches but under 12 inches:		
Tons.....	75,858	220,729
Value.....	\$7,250,391	\$18,335,481
Widths 12 inches and wider, not including motor-vehicle fender steel:		
Tons.....	173,956	282,407
Value.....	\$11,438,453	\$18,807,612
Fender steel (for motor-vehicle fenders):		
Tons.....	49,571	101,196
Value.....	\$3,429,708	\$6,967,207
Cold-finished steel bars, total value.....	\$24,833,337	\$71,755,645
Rounds, 2 inches in diameter and smaller, total value.....	\$10,007,855	\$35,913,667
Quantity reported:		
Tons.....	140,195	371,854
Value.....	\$10,007,855	\$31,170,912
Quantity not reported, value.....		\$4,742,755
Rounds, larger than 2 inches in diameter, total value.....	\$5,873,189	\$10,974,245
Quantity reported:		
Tons.....	81,859	119,579
Value.....	\$5,873,189	\$8,600,582
Quantity not reported, value.....		\$2,373,663
Rounds not distributed as to size, total value.....	\$3,380,280	\$5,071,699
Quantity reported:		
Tons.....	34,827	
Value.....	\$2,682,593	
Quantity not reported, value.....	\$697,687	\$5,071,699
Shapes (square, hexagon, and flat), total value.....	\$5,572,013	\$19,796,034
Quantity reported:		
Tons.....	72,608	237,298
Value.....	\$5,572,013	\$18,515,402
Quantity not reported, value.....		\$1,280,632
Valves, faucets, and fittings, ⁴ value.....	\$20,747,452	
Other machine-shop products, including carburetors, fabricated pipe, lubricators, railroad appliances, etc., value.....	\$205,989,687	
Cars and trucks, industrial, hand, total.....	\$4,002,279	\$532,042,253
Number reported:		
Number.....	81,852	
Value.....	\$2,290,666	
Number not reported.....	\$1,741,613	
Cars and trucks, mining, total.....	\$3,369,230	\$5,966,994
Number reported:		
Number.....	11,959	26,614
Value.....	\$1,960,704	\$5,003,560
Number not reported.....	\$1,408,526	\$3,963,434
Amount received for products manufactured on contract, the processing of iron and steel, and machine-shop repair work.....	\$64,666,264	\$184,966,852

¹ For steel castings, see Report for Steel Works and Rolling Mills; for castings of nonferrous metals, see Report for Nonferrous-Metal Alloys and Products.

² For State figures, see table 4.

³ For total production of machinery, by classes, so far as separately reported, see report entitled "Machinery."

⁴ For detail, see table 5.

⁵ Not called for on schedule.

⁶ For detail, see table 6.

⁷ Includes industrial cars and trucks, hand and motorized, to the value of \$17,918,881 for 1929; for data for industrial cars and trucks, motorized, for 1931, see report entitled "Machinery," p. 930.

TABLE 4.—GRAY-IRON AND MALLEABLE-IRON CASTINGS—PRODUCTION, BY QUANTITY AND VALUE, BY STATES, 1931 AND 1929

[The figures in this table refer only to gray-iron and malleable-iron castings sold as such by establishments classified in the "Foundry and Machine-Shop Products Not Elsewhere Classified" industry and by those in all other industries which reported the sale of iron castings. They do not, therefore, cover the large quantity of castings produced and consumed by establishments engaged in the manufacture of stoves, furnaces, machinery, and other finished products. Statistics are given for each State for which separate figures can be published without disclosing, exactly or approximately, the production reported by individual establishments. Certain of the "Other States," however, reported larger quantities and values of castings than some of the States shown separately.]

STATE	1931		1929	
	Tons (2,000 pounds)	Value	Tons (2,000 pounds)	Value
GRAY-IRON CASTINGS				
United States.....	2,390,495	\$174,197,327	5,070,846	\$375,508,104
Alabama.....	42,377	1,952,682	58,131	2,894,286
Arizona.....	6,161	235,278	4,200	330,350
California.....	72,227	5,545,482	149,054	12,256,525
Colorado.....	40,024	1,403,601	64,673	2,070,577
Connecticut.....	33,193	3,733,527	77,514	9,349,271
Florida.....	1,530	123,084	2,005	174,276
Georgia.....	18,526	977,524	52,202	2,658,792
Idaho.....	1,050	87,000	(1)	(1)
Illinois.....	211,759	13,897,627	504,852	36,073,448
Indiana.....	114,089	8,541,833	233,733	20,778,526
Iowa.....	33,846	2,149,723	97,932	8,287,503
Kansas.....	32,024	1,154,278	65,077	2,880,058
Kentucky.....	20,318	807,080	37,354	1,770,087
Louisiana.....	10,432	449,942	28,140	1,249,087
Maine.....	2,534	285,101	3,312	411,243
Maryland.....	34,388	1,747,173	59,681	3,535,991
Massachusetts.....	83,651	7,965,756	132,065	14,173,055
Michigan.....	444,537	46,149,738	769,487	63,270,354
Minnesota.....	42,446	2,272,994	84,490	4,520,638
Mississippi.....	2,210	59,407	1,716	125,923
Missouri.....	52,624	3,199,944	123,091	8,741,423
Montana.....	5,121	321,601	8,852	553,241
Nebraska.....	2,935	229,073	1,475	89,373
New Hampshire.....	2,782	416,101	0,750	695,737
New Jersey.....	98,870	8,038,879	155,046	15,320,632
New York.....	149,002	11,417,394	346,890	27,735,600
North Carolina.....	4,043	300,012	7,713	899,819
Ohio.....	239,672	18,131,822	739,305	59,501,765
Oklahoma.....	3,132	223,837	10,369	847,894
Oregon.....	5,030	503,916	9,606	1,059,912
Pennsylvania.....	377,476	18,538,672	824,283	41,779,083
Rhode Island.....	6,346	779,113	26,722	2,635,181
South Carolina.....	784	53,854	2,896	245,065
Tennessee.....	36,421	1,768,175	54,397	2,767,594
Texas.....	37,169	1,958,567	76,879	4,808,022
Utah.....	14,006	555,284	19,270	900,496
Vermont.....	2,167	279,776	(1)	(1)
Virginia.....	24,515	1,193,956	42,180	1,978,580
Washington.....	15,250	1,053,140	40,595	2,767,013
West Virginia.....	6,750	580,664	19,530	1,268,646
Wisconsin.....	46,822	4,391,636	105,921	11,641,761
Other States.....	12,256	668,881	31,668	2,654,344
MALLEABLE-IRON CASTINGS				
United States.....	299,206	35,294,201	735,225	101,108,837
Connecticut.....	6,939	1,489,580	18,495	3,659,869
Illinois.....	41,467	4,831,769	119,051	16,529,003
Indiana.....	25,007	2,988,401	85,708	10,559,037
Michigan.....	91,119	7,984,376	138,231	15,893,596
New Jersey.....	4,712	935,404	9,990	1,952,504
New York.....	19,762	2,602,554	71,898	11,139,742
Ohio.....	44,783	5,135,201	115,964	14,408,533
Pennsylvania.....	21,621	3,319,203	50,408	9,140,734
Wisconsin.....	23,061	2,511,995	77,317	9,464,223
Other States.....	20,735	3,495,718	48,163	8,360,936

¹ Included in item for "Other States" to avoid disclosing output of individual establishments.

TABLE 5.—BALL AND ROLLER BEARINGS—PRODUCTION, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1931

[The figures in this table refer only to ball and roller bearings and parts made for sale as such, and do not, therefore, include data for bearings made for installation in machines manufactured by the same establishments. No comparable data are available for years prior to 1931]

KIND	Number	Value
Ball bearings and roller bearings and parts, total value.....		\$50,528,087
Ball bearings, total.....		26,867,981
Radial, other than felt-seal:		
Single-row, except self-aligning and separable.....	17,501,135	14,842,121
Double-row, except self-aligning and separable.....	1,975,328	3,330,995
Radial, felt-seal.....	633,558	430,690
Other radial, including self-aligning and open-type or separable ¹	10,793,346	6,386,699
Thrust type.....	2,420,651	934,186
Ball bearings—type and number not reported.....		943,200
Roller bearings, total.....		22,144,218
Number reported.....	45,752,594	19,959,071
Number not reported.....		2,185,147
Parts made for sale as such.....		1,515,888

¹ Data for these kinds of bearings were called for separately on the schedule, but it was necessary to combine the figures in order to avoid disclosing, exactly or approximately, the production reported by individual establishments.

TABLE 6.—VALVES, FAUCETS, AND FITTINGS, NOT INCLUDING CAST-IRON SOIL AND PLUMBERS' PIPE FITTINGS—PRODUCTION, BY KIND AND VALUE: 1931

[This table covers the production of valves, faucets, etc., in all industries, so far as separately reported to the Bureau of the Census. Some of the manufacturers classified in the Plumbers' Supplies industry, however, failed to give separate figures for their production of valves, faucets, and fittings, but included data for these products with those for certain others reported as a class or group. See "Valves, faucets, and fittings," p. 935]

KIND	Value
Valves, faucets, and fittings, not including cast-iron soil and plumbers' pipe fittings, total.....	\$88,933,311
Valves reported by kind of metal:	
Brass, bronze, and other nonferrous metals.....	24,452,340
Iron and steel.....	8,440,254
Valves not reported by kind of metal.....	14,489,304
Faucets reported separately.....	8,311,942
Fittings reported by kind of metal:	
Brass and bronze.....	6,960,345
Cast-iron, not including cast-iron soil and plumbers' pipe fittings.....	11,224,717
Malleable-iron.....	9,281,572
Steel.....	3,043,956
Fittings not reported by kind of metal.....	2,708,879

MACHINE-TOOL ACCESSORIES AND MACHINISTS' PRECISION TOOLS AND INSTRUMENTS

[A preliminary report for this industry was issued under date of December 1, 1932]

Description of the industry.—This industry, as defined for census purposes, embraces establishments whose principal products are twist-drills, reamers, milling cutters, taps, dies, etc., and those specializing in the building of dies, jigs, fixtures, and special tools. Some of the establishments engaged in the manufacture of these classes of products were assigned prior to 1929 to the "Tools, not Including Edge Tools, Machine Tools, Files, or Saws" industry, others to the "Machine Tools" industry, and still others to the "Foundry and Machine-Shop Products Not Elsewhere Classified" industry. Because of these changes in classification, no comparable data for years prior to 1929 are available.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1931 AND 1929, AND FOR STATES, 1931

[Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. One of the "Other States," namely Iowa, is, however, more important in the industry than Washington, for which separate figures are given]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
<i>United States</i>						
1931.....	718	17,533	\$20,558,780	\$16,319,780	\$69,033,154	\$52,713,374
1929 ²	722	20,632	51,084,540	26,992,631	144,410,890	117,418,259
Percent of decrease, 1929-31.....	-0.6	-34.3	-48.0	-39.5	-62.2	-55.1
<i>States, 1931</i>						
California.....	23	185	\$291,073	\$273,210	\$939,655	\$660,445
Connecticut.....	37	1,158	1,205,742	545,293	3,228,829	2,083,536
Illinois.....	87	1,186	1,851,066	1,480,238	5,070,255	3,590,017
Indiana.....	35	357	573,307	233,684	1,300,850	1,067,166
Massachusetts.....	49	2,603	2,704,059	1,182,097	7,832,028	6,649,931
Michigan.....	144	6,278	12,386,689	8,380,185	31,033,073	22,653,788
Minnesota.....	9	140	177,578	70,551	398,509	327,958
Missouri.....	8	104	137,266	79,224	407,957	328,733
New Jersey.....	37	525	953,993	409,054	1,746,351	1,337,297
New York.....	78	728	1,187,207	469,090	2,570,603	2,101,513
Ohio.....	116	2,826	3,526,216	2,211,666	10,229,710	8,018,044
Pennsylvania.....	43	767	737,519	440,399	1,975,669	1,535,270
Rhode Island.....	10	309	364,229	298,874	1,055,443	750,569
Vermont.....	3	97	90,399	39,483	234,115	194,632
Washington.....	4	15	19,557	13,469	57,750	44,281
Wisconsin.....	24	194	269,517	145,752	707,511	561,759
Other States ³	11	61	83,363	47,511	243,946	196,435

¹ Value of products less cost of materials, supplies, fuel, and purchased electric energy. See sec. 20, p. 11.

² No comparable data for prior years are available. See "Description of the industry," above.

³ Colorado, 1 establishment; Iowa, 2; Kentucky, 1; Louisiana, 1; Maryland, 1; New Hampshire, 1; Oregon, 2; Texas, 2.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931 AND 1929, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec 13, p. 8]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931	17,533	17,602	17,297	17,139	17,516	17,486	17,035	16,881	16,969	18,534	18,566	18,280	17,075
1929	26,682	24,432	25,349	27,035	28,311	28,978	28,411	27,381	27,086	27,069	27,527	25,684	<i>22,562</i>
<i>States, 1931</i>													
California	185	184	200	214	219	195	203	205	175	172	165	<i>149</i>	151
Connecticut	1,158	1,230	1,303	1,267	1,272	1,267	1,129	1,131	1,123	1,070	1,058	1,060	<i>895</i>
Illinois	1,180	1,291	1,279	1,284	1,256	1,267	1,212	1,138	1,100	1,105	1,161	1,099	<i>1,047</i>
Indiana	1,357	365	368	355	379	381	366	338	318	342	318	345	387
Massachusetts	2,603	2,889	2,833	2,816	2,768	2,741	2,646	2,545	2,549	2,471	2,419	2,388	2,394
Michigan	6,278	5,662	5,249	5,222	5,645	5,679	5,730	5,950	6,459	7,818	7,709	7,615	6,595
Minnesota	140	140	163	160	137	145	144	148	139	137	131	119	<i>108</i>
Missouri	104	142	158	150	115	103	103	94	80	72	76	75	78
New Jersey	525	<i>451</i>	571	519	450	535	574	551	506	555	552	542	476
New York	728	754	729	702	713	748	768	774	750	763	734	<i>650</i>	659
Ohio	2,826	2,902	2,874	2,925	3,028	2,933	2,696	2,582	2,612	2,720	2,919	2,906	2,811
Pennsylvania	767	822	808	784	797	786	781	785	766	726	<i>704</i>	719	726
Rhode Island	309	390	334	335	336	318	305	317	285	274	280	268	<i>267</i>
Vermont	97	101	102	102	101	99	98	95	92	91	<i>80</i>	93	96
Washington	15	16	20	19	15	13	16	16	17	14	12	12	<i>5</i>
Wisconsin	194	219	242	222	213	208	169	<i>145</i>	161	149	181	196	224

TABLE 3.—MACHINE-TOOL ACCESSORIES AND MACHINISTS' PRECISION TOOLS AND INSTRUMENTS—PRODUCTION, BY KIND AND VALUE: 1931 AND 1929

KIND	1931	1929
1. "Machine-tool accessories and machinists' precision tools and instruments" industry, all products, total value.....	\$69, 033, 154	\$144, 410, 890
2. Machine-tool accessories and machinists' precision tools and instruments.....	59, 958, 923	¹ 134, 273, 247
3. Other products (not normally belonging to the industry).....	7, 041, 659	¹ 7, 832, 392
4. Receipts for contract and repair work.....	1, 432, 572	2, 305, 251
5. Machine-tool accessories and machinists' precision tools and instruments made as secondary products in other industries.....	14, 592, 331	48, 865, 701
Machine-tool accessories and machinists' precision tools and instruments, all industries, total value (sum of 2 and 5).....	74, 551, 254	¹ 183, 138, 048
Attachments and fixtures, total value.....	47, 863, 095	98, 143, 062
General equipment:		
Chucks:		
Drill.....	339, 964	1, 311, 702
Lathe.....	574, 716	2, 725, 483
Magnetic.....	84, 908	360, 495
Vises (machine).....	30, 372	182, 232
Special equipment:		
Jigs and fixtures.....	4, 276, 792	20, 014, 120
Subpresses, punches, dies, etc., for punch, stamping, and forming presses, etc.....	27, 708, 313	46, 510, 752
Die-casting and drop-forging dies.....	1, 381, 583	1, 270, 754
Tools for screw and automatic machines (box tools, hollow mills, work and tool holders, etc.).....	1, 233, 650	4, 050, 307
Specially designed tools.....	2, 742, 557	5, 657, 978
Special machinery (other than machine tools) and model and experimental work.....	2, 290, 993	5, 066, 984
Attachments for machine tools:		
Boring-machine.....	215, 628	
Drilling-machine.....	374, 882	
Lathe (engine).....	200, 168	6, 357, 683
Other machine-tool attachments.....	839, 643	
Other attachments and fixtures.....	2, 094, 777	
Attachments and fixtures not reported separately.....	3, 474, 140	4, 629, 382
Small tools and machinists' precision tools and instruments, total value.....	26, 688, 159	¹ 84, 094, 986
Arbors and collars.....	99, 449	364, 716
Collets (lathe, milling-machine, and drill).....	92, 602	345, 523
Counterbores.....	323, 358	1, 116, 719
Countersinks and combination countersinks and drills.....	193, 336	¹ 65, 222
Drills:		
Carbon.....	1, 845, 137	4, 096, 029
High-speed.....	3, 052, 284	9, 911, 434
Hobbing cutters (principally high-speed).....	1, 106, 139	2, 078, 916
Lathe, planer, and shaper tools (not including toolholders), principally high-speed.....		
Milling cutters (all types), end mills, slotting cutters, etc.:	540, 261	1, 140, 043
Solid:		
Carbon.....	182, 517	
High-speed.....	3, 143, 005	10, 704, 526
Inserted-teeth.....	804, 833	
Reamers (solid, expansion, and inserted-blade):		
Carbon.....	810, 940	3, 114, 356
High-speed.....	1, 334, 437	5, 042, 556
Threading tools:		
Taps and dies, not pipe-threading:		
Taps:		
Carbon.....	1, 157, 283	3, 526, 272
High-speed.....	1, 225, 271	3, 069, 664
Dies:		
Carbon.....	670, 232	1, 337, 119
High-speed.....	185, 778	1, 362, 076
Chasers.....	1, 345, 633	3, 251, 469
Pipe-threading:		
Taps.....	201, 046	300, 435
Dies.....	532, 425	1, 346, 867
Pipe stocks complete with dies.....	1, 083, 890	2, 338, 528
All other cutting tools, tool holders, mandrels, etc.....	2, 663, 906	
Precision measuring tools (micrometer and vernier) and gauges (plug, ring, snap, thread, etc.).....	2, 074, 922	30, 481, 286
Other measuring tools.....	1, 209, 165	
Small tools not reported separately.....	750, 520	

¹ Revised.² Countersinks only; not comparable with item for 1931.

MACHINE TOOLS

[A preliminary report for this industry was issued under date of Aug. 31, 1932]

Description of the industry.—This industry classification embraces establishments engaged primarily in the manufacture of power-driven machines generally covered by the designation "Machine Tools." It conforms closely to the definition given in the tariff act approved September 21, 1922, paragraph 372, page 32, namely, "any machine operating other than by hand power which employs a tool for work on metal," but covers bending machines also. Certain types of machines designed for working metal, especially can-making machinery, welding machines, wire-drawing machines, and wireworking machines, do not come within the terms of this definition and consequently are classified elsewhere.

At censuses prior to that for 1929 certain of the establishments engaged primarily in the manufacture of machine-tool accessories and small metal-working tools were assigned to this industry, others to the "Foundry and Machine-Shop Products, Not Elsewhere Classified" industry, and still others to the "Tools, Not Including Edge Tools, Machine Tools, Files, or Saws" industry but all such establishments were classified separately for 1929 and 1931. (See report on "Machine-Tool Accessories and Machinists' Precision Tools and Instruments" industry.) The figures for 1927 as given in table 1 have been adjusted for comparison with 1929 and 1931 (see figures in italics) and are also presented (in roman type) as published in the report for 1927, for comparison with those for earlier years. The adjusted figures only are given in table 3.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1919 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
<i>United States</i>						
1931.....	279	21,262	\$25,149,816	\$21,900,879	\$81,286,568	\$59,385,689
1929.....	280	47,391	76,410,237	64,284,022	244,578,088	180,294,066
1927.....	288	32,388	47,403,335	43,151,422	145,854,921	102,763,499
1927 *.....	355	35,260	52,365,692	46,114,849	159,513,125	113,388,276
1925.....	329	30,831	46,711,302	43,826,151	144,202,453	100,376,532
1925.....	350	33,373	47,336,800	40,977,024	137,206,098	96,229,074
1923.....	348	21,307	25,251,735	23,978,248	67,729,362	43,751,114
1921.....	403	53,111	66,178,969	59,034,308	212,400,158	153,365,850
1919 *.....						
Percent of increase or decrease(—):						
1929-31.....	-0.4	-55.1	-67.1	-65.9	-66.8	-67.1
1927-29.....	-2.8	46.3	61.2	49.0	67.7	75.5
1925-27.....	7.9	14.4	12.1	5.2	10.6	13.0
1923-27.....	-6.0	-7.6	-1.3	7.0	5.1	4.3
1923-25.....	.6	56.6	87.5	70.9	102.6	119.9
1921-23.....	-13.6	-59.9	-61.8	-59.4	-68.1	-71.5
1919-21.....						

See footnotes at end of table.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1919 TO 1931, AND FOR STATES, 1931—Continued

[See note at head of table]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
<i>States, 1931</i>						
Connecticut.....	20	2,782	\$3,654,788	\$3,006,722	\$10,184,025	\$7,177,303
Illinois.....	32	2,016	2,424,895	2,267,999	8,589,599	6,321,600
Indiana.....	12	540	628,433	934,487	3,082,890	2,148,403
Iowa.....	4	290	440,452	478,664	2,022,775	1,544,111
Massachusetts.....	23	1,393	1,957,923	1,538,319	6,403,535	4,865,216
Michigan.....	23	653	924,866	845,390	3,782,863	2,937,473
Missouri.....	3	53	67,994	32,328	203,045	175,717
New Jersey.....	7	310	385,888	308,453	1,144,142	835,689
New York.....	22	1,294	1,999,291	1,214,937	5,524,595	4,309,658
Ohio.....	68	5,058	6,361,651	5,674,151	19,143,458	13,469,307
Pennsylvania.....	24	1,950	1,628,787	1,297,010	5,997,819	4,700,809
Vermont.....	5	945	1,213,203	795,004	3,827,939	3,032,335
Wisconsin.....	17	998	1,245,293	716,775	3,670,424	2,953,619
Other States.....	19	2,980	2,216,352	2,790,040	7,704,459	4,914,419

¹ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.² The figures in italics have been adjusted for comparison with 1929 and 1931; those in roman type are comparable with the figures for earlier years. (See "Description of the industry," p. 987.)³ No comparable figures available for years prior to 1919.⁴ California, 2 establishments; Kentucky, 2; Maryland, 1; Minnesota, 3; New Hampshire, 3; Rhode Island, 6; Washington, 2.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931 AND 1929, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by **bold-faced** figures and that of minimum employment by *italic* figures. See sec. 13, p. 8.]

	Average num- ber em- ployed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931.....	21,262	25,830	25,205	25,150	23,768	23,057	22,005	20,792	19,785	19,084	18,244	16,386	15,841
1929.....	47,391	43,799	45,382	46,350	46,963	47,279	47,857	48,593	48,798	49,162	49,542	48,595	46,369
<i>States, 1931</i>													
Connecticut.....	2,782	3,501	3,182	3,195	3,039	3,016	2,955	2,905	2,660	2,467	2,357	2,111	1,997
Illinois.....	2,016	2,350	2,330	2,391	2,130	1,945	1,957	1,979	2,024	1,850	1,842	1,757	1,643
Indiana.....	540	558	551	562	572	629	620	640	542	514	428	431	423
Iowa.....	290	307	306	299	295	317	314	271	270	270	271	283	283
Massachusetts.....	1,393	1,450	1,518	1,588	1,473	1,517	1,416	1,404	1,302	1,355	1,322	1,189	1,108
Michigan.....	653	810	792	752	729	683	593	546	559	612	604	572	587
Missouri.....	53	69	65	63	54	52	48	49	50	41	48	48	48
New Jersey.....	310	375	334	320	347	329	332	327	336	310	268	233	211
New York.....	1,294	1,487	1,505	1,520	1,469	1,416	1,405	1,329	1,255	1,202	1,027	972	941
Ohio.....	5,058	6,227	6,155	6,056	5,914	5,588	5,467	4,871	4,383	4,321	4,216	3,775	3,725
Pennsylvania.....	1,950	2,159	2,170	2,164	2,133	2,108	2,033	1,993	1,924	1,861	1,799	1,624	1,528
Vermont.....	945	1,078	1,029	1,099	1,112	1,112	983	867	905	779	839	776	761
Wisconsin.....	998	1,401	1,390	1,354	1,315	1,194	890	717	815	865	672	725	653

TABLE 3.—MACHINE TOOLS—PRODUCTION, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1931 AND 1929

KIND	1931		1929	
	Num-ber	Value	Num-ber	Value
1. Machine tool industry, all products, total value.....		\$81,286,568		\$244,578,088
2. Machine tools.....		55,109,887		176,426,454
3. Replacement and repair parts.....		7,504,327		17,150,306
4. Other products (not normally belonging to the industry).....		16,724,090		45,587,632
5. Receipts for contract and repair work.....		1,948,255		5,413,696
6. Machine tools made as secondary products in other industries, value.....		3,602,392		9,947,590
Machine tools, all industries: Total value (sum of 2 and 6).....		58,712,279		1186,373,954
Bending machines.....	1,005	491,229	2,680	1,583,794
Boring machines:				
Horizontal.....	68	571,359	159	932,237
Vertical.....	16	223,614	257	1,363,881
Special types:				
Combination boring, drilling, and milling.....	45	492,298	144	1,467,786
Combination boring and turning.....	28	362,581	129	1,341,240
Other.....	(2)	269,172	(2)	1,109,293
Cutting-off machines:				
Band-saw.....	82	49,971	324	194,098
Hack-saw.....	610	136,998	2,680	642,475
Other, including automatic and cold-saw.....	97	115,267	3151	3368,617
Drilling machines:				
Horizontal.....	343	745,514	274	755,997
Vertical:				
Multiple-spindle, other than sensitive.....	238	943,309	1,063	4,149,614
Standard.....	662	639,468	3,315	2,022,870
Sensitive:				
Single-spindle.....	744	170,259	2,977	919,734
Multiple-spindle.....	185	210,769	2,404	2,453,444
Radial.....	204	630,669	1,317	4,643,310
Combination vertical and horizontal.....	29	225,890	(2)	2,349,551
Other, including automatic, bench, and vertical universal-head.....	(2)	1,839,191	1176	1,588,250
Honing machines.....	80	218,170	950	3,066,650
Forging machines.....	(2)	1,240,855		
Gear-cutting machines:				
Generating, including hobbing and other types:				
Number reported.....	757	3,392,885	2,087	8,472,322
Number not reported.....		95,948		
Formed rotary-cutter type.....	21	79,787	129	507,586
Grinding machines:				
Cutter and tool.....	(2)	356,651	2,187	1,574,966
Drill.....	(2)	112,111		
External-cylindrical:				
Plain.....	436	2,237,646	1,362	6,206,709
Universal.....	57	140,728	603	1,173,912
Surface:				
Horizontal.....	187	341,677	1,790	3,567,658
Vertical.....	369	541,248		
Other, including disk, internal-cylindrical, and wet grinders.....	(1)	4,932,129	(2)	19,578,682
Hammers (not portable).....	(2)	627,652	(2)	1,594,998
Keyseaters.....	(2)	35,667	(2)	94,999
Lathes:				
Bench.....	(1)	126,493	(2)	381,240
Engine:				
General utility:	2,390	1,552,649	6,387	5,402,569
Capacity 16 inches swing and under.....				
Capacity over 16 inches but not over 22 inches swing.....	310	644,118	1,535	3,203,995
Capacity over 22 inches but not over 36 inches swing.....	88	253,560	681	2,374,637
Heavy duty—over 36 inches swing.....	19	317,401	90	778,269
Polishing and buffing.....	(2)	187,197	4,911	1,167,357
Automatic single-spindle:				
Bar.....	201	631,587		
Chucking.....	253	702,902		
Automatic multiple-spindle:				
Bar.....	(2)	1,413,212	5,128	21,455,643
Chucking.....	188	1,950,418		
Turret:				
Horizontal hand-operated:				
Ram type.....	219	474,999	3,132	9,878,132
Saddle type:				
Standard.....	110	508,519		
Heavy-duty.....	47	344,376		

See footnotes at end of table.

TABLE 3.—MACHINE TOOLS—PRODUCTION, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1931 AND 1929—Continued

KIND	1931		1929	
	Number	Value	Number	Value
Machine tools, all industries—Continued.				
Lathes—Continued.				
Other, including vertical-turret, gap, hand or speed, special types, and those not reported separately as to kind	(2)	\$1,009,483	1,279	\$4,911,932
Milling machines:				
Hand-feed	(2)	113,014	312	129,803
Power-feed:				
Automatic	49	174,949	(1)	(1)
Plain	354	709,263	1,112	2,759,194
Universal	261	666,882	2,270	5,840,142
Vertical	173	622,361	469	1,423,516
Lincoln and planer types	90	631,910	904	4,216,800
Other	(2)	926,741	600	2,482,024
Planers:				
Standard:				
36 inches and under	18	81,052	62	368,537
Over 36 inches	11	191,498	57	807,835
Open-side	14	102,434	89	873,105
Special	9	54,124	60	467,764
Pipe-cutting and threading machines:				
Number reported	953	467,529	2,933	1,756,564
Number not reported		62,352		
Portable tools:				
Drills:				
Electric:				
Number reported	54,735	2,491,977	114,306	4,586,469
Number not reported		317,751		
Pneumatic	6,664	1,190,997	19,063	2,446,603
Grinders:				
Electric	11,180	606,224	46,360	2,395,279
Pneumatic	3,806	425,491	10,484	1,151,348
Hammers (chipping, riveting, calking, etc):				
Electric	1,074	119,442	3,739	648,671
Pneumatic	12,011	1,112,099	51,391	2,900,224
Other, including portable motor-driven garage equipment and flexible-shaft machines	(2)	5,778,780	(2)	1 5,638,575
Presses:				
Forming	145	407,431	609	1,756,371
Hydraulic	6	15,281		
Stamping, power	(2)	1,392,635	4,352	6,611,169
Punch	351	295,264	1,638	1,004,324
Other, including arbor presses and hand and foot stamping presses	(2)	349,349	(2)	420,327
Punching machines (not portable)	35	159,382	330	1,111,993
Riveting machines (not portable)	(2)	628,029	(2)	(2)
Shapers:				
Horizontal:				
20-inch stroke and under	119	191,795	1,044	1,441,239
Over 20-inch stroke but not over 28-inch	83	160,610	442	855,872
Over 28-inch stroke	23	91,331	191	506,094
Vertical	105	342,523	136	372,862
Slotters	171	9,977	156	409,336
Shears, hand				
Combination punch and shear	(2)	185,021	498	501,808
Rotary	194	122,349	550	193,591
Straight	199	239,444	753	991,496
Other, including alligator	(2)	65,355	(2)	431,800
Threading machines (except for pipe):				
Die and rolling type	394	436,408	861	1,508,166
Milling type	122	473,005	150	680,432
Tapping machines	79	101,016	(2)	603,180
Other machine tools and machine tools not distributed by kind		3,611,637		1 13,775,393

1 Revised.

2 Data incomplete.

3 Reported as cold-saw only.

4 Not called for separately on schedule.

5 No comparable data; included in item for "Other machine tools and machine tools not distributed by kind."

METERS (GAS, WATER, ETC.) AND GAS GENERATORS

[A preliminary report for this industry was issued under date of Aug. 24, 1932]

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of gas meters, regulators, and governors; gas-making machines; acetylene and gasoline-gas generators; meters for the measurement of water and other liquids; and parts and appliances, such as valves, stopcocks, seals, swivels and caps, meter fittings, and indexes.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³
<i>United States</i>						
1931-----	70	4,954	\$5,755,621	\$7,217,085	\$23,049,723	\$15,832,638
1929-----	72	6,101	8,931,625	15,187,458	46,623,344	25,435,856
1927-----	58	5,915	8,792,364	15,590,977	36,715,190	21,124,213
1925-----	61	5,514	7,428,842	13,038,272	34,282,059	21,253,787
1923-----	61	6,127	7,756,779	14,331,863	34,250,414	19,918,551
1921-----	65	4,280	5,211,931	9,000,272	21,956,424	12,956,162
1919-----	105	5,589	5,995,877	10,647,402	26,267,074	15,619,672
1914-----	123	4,972	3,309,631	6,118,471	15,183,916	9,065,445
1909-----	125	4,767	2,896,726	4,994,846	13,307,911	8,313,065
1904-----	89	2,674	1,532,247	2,612,907	5,630,975	3,018,068
1899-----	113	2,166	1,185,431	1,943,230	4,390,590	2,447,700
Percent of increase or decrease (—):						
1929-31-----	(4)	-18.8	-35.6	-52.5	-43.3	-37.8
1927-29-----	(4)	3.1	1.6	-2.6	10.6	20.4
1925-27-----	(4)	7.3	18.4	19.6	7.1	-0.6
1923-25-----	(4)	-10.0	-4.2	-9.0	0.1	6.7
1921-23-----	(4)	43.2	48.8	59.2	58.0	53.7
1919-21-----	-38.1	-23.4	-13.1	-15.5	-16.4	-17.1
1921-31-----	(4)	15.7	10.4	-19.8	5.0	22.2
1919-29-----	-31.4	9.2	49.0	42.6	54.7	62.8
1909-19-----	-16.0	17.3	107.0	113.2	97.4	87.9
1899-1909-----	10.6	120.1	144.4	157.0	203.1	239.6
<i>States, 1931</i>						
California-----	8	247	\$358,864	\$459,410	\$1,472,455	\$1,013,045
Illinois-----	9	132	189,254	408,950	1,272,143	863,163
Indiana-----	4	78	71,465	162,558	401,446	238,888
Massachusetts-----	5	425	443,927	555,111	1,536,934	981,823
New Jersey-----	6	243	280,823	257,712	\$36,863	579,151
New York-----	13	1,429	1,714,477	1,811,743	6,125,878	4,314,135
Pennsylvania-----	10	1,385	1,498,595	1,933,737	5,966,582	4,032,845
Other States ⁴ -----	15	1,015	1,198,216	1,627,834	5,437,422	3,800,588

¹ The cost of mill supplies is included for 1927 and earlier years, but not for 1929 and 1931.

² For 1929 manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

³ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

⁴ Percent not computed where base is less than 100.

⁵ Connecticut, 1 establishment; Kansas, 1; Maryland, 2; Michigan, 2; Ohio, 6; Rhode Island, 1; Wisconsin, 1.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, AND 1914, AND FOR STATES, 1931

This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8.]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931	4,954	5,436	5,407	5,290	5,216	5,068	4,931	4,814	4,821	4,777	4,540	4,580	4,624
1929	6,101	5,697	5,832	5,907	5,925	6,051	6,175	6,173	6,211	6,279	6,294	6,353	6,314
1925	5,514	5,520	5,601	5,592	5,564	5,447	5,411	5,476	5,464	5,448	5,471	5,513	5,558
1919	5,589	5,972	5,439	5,262	5,133	5,051	5,606	5,718	5,809	5,737	5,688	5,747	5,906
1914	4,972	4,682	5,069	5,154	5,125	5,111	5,208	5,153	5,161	4,959	4,687	4,662	4,693
<i>States, 1931</i>													
California	247	305	271	278	270	258	250	254	269	272	168	187	181
Illinois	132	153	153	157	156	137	136	130	127	117	108	107	105
Indiana	78	84	83	83	79	77	78	80	79	76	77	72	71
Massachusetts	425	459	474	500	440	442	432	417	407	410	387	362	371
New Jersey	243	219	212	225	251	257	245	245	252	253	248	250	256
New York	1,429	1,491	1,495	1,527	1,544	1,474	1,449	1,385	1,399	1,375	1,345	1,335	1,324
Pennsylvania	1,385	1,590	1,582	1,431	1,417	1,394	1,354	1,341	1,346	1,324	1,285	1,272	1,287

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1931 AND 1929

[The figures for 1931 represent production; those for 1929 refer to manufacturers' sales (shipments or deliveries). No comparable figures can be given for earlier years.]

KIND	1931	1929
1. "Meters (Gas, Water, etc.) and Gas Generators" industry, all products, total value.....	\$23,049,723	\$40,623,344
2. Gas meters, water and other liquid meters, gas generators, and parts and accessories, value.....		
3. Other products (not normally belonging to the industry), value.....	21,517,127	38,000,636
4. Receipts for contract and repair work.....	1,120,355	2,099,001
5. Gas meters, water and other liquid meters, and gas generators made as secondary products in other industries, value.....	412,241	523,407
Gas meters, water and other liquid meters, and gas generators, all industries: Total value (sum of 2 and 5).....	1,254,762	5,041,442
Gas meters: Number.....	22,771,889	43,042,378
Value.....		
Gas regulators and governors: Number reported: Number.....	479,032	1,310,574
Value.....	\$4,958,322	\$12,402,071
Number not reported, value.....	326,598	381,848
Water meters: Number.....	\$2,220,189	\$2,813,493
Value.....		\$1,602,696
Gas meters and water meters not reported separately by manufacturers, value.....	429,144	691,483
Meters for liquids other than water, value.....	\$5,897,792	\$9,076,004
Gas generators: Number reported: Number.....	\$562,969	\$553,987
Value.....	\$2,983,311	\$3,657,217
Number not reported, value.....	1,257	4,006
Parts and accessories, value.....	\$436,414	\$1,000,586
	\$548,150	\$4,407,260
	\$5,164,742	\$7,524,054

PUMPS (HAND AND POWER) AND PUMPING EQUIPMENT

[A preliminary report for this industry was issued under date of November 23, 1932]

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of hand and power pumps of all kinds, such as water pumps, gasoline pumps, air pumps (except compressors), oil pumps, hydraulic rams, spraying outfits (complete units), and spray pumps; domestic water systems; and pump jacks, pump cylinders, and other pumping equipment.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1914 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and 1914 but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	303	15,156	\$17,106,556	\$33,734,650	\$54,353,391	\$50,618,741
1929.....	322	23,106	34,920,261	66,802,372	164,009,397	97,207,025
1927.....	278	18,671	27,118,924	52,765,023	130,591,191	77,826,168
1925.....	253	17,935	25,278,060	50,328,435	120,148,157	69,819,722
1923.....	229	14,550	19,990,603	34,464,720	92,930,056	58,465,336
1921.....	221	12,186	13,969,531	26,803,969	69,962,413	43,158,444
1919.....	239	16,072	19,731,647	36,099,781	85,401,940	49,332,159
1914 ³	183	8,322	5,555,203	9,458,744	24,214,722	14,755,978
Percent of increase or decrease (—):						
1929-31.....	-5.9	-34.4	-51.0	-49.5	-48.6	-47.9
1927-29.....	15.8	23.8	28.8	26.6	25.6	24.9
1925-27.....	9.9	4.1	7.3	4.8	8.7	11.5
1923-25.....	10.5	23.3	26.4	46.0	29.3	19.4
1921-23.....	3.6	19.4	43.1	28.6	32.8	35.5
1919-21.....	-7.5	-24.2	-29.2	-25.7	-18.1	-12.5
1921-31.....	37.1	24.4	22.5	25.9	20.6	17.3
1919-29.....	34.7	43.8	77.0	85.2	92.0	97.0
<i>States, 1931</i>						
California.....	51	1,204	\$1,864,534	\$3,608,109	\$9,034,307	\$5,426,198
Illinois.....	29	745	834,238	2,084,366	5,046,581	2,962,215
Indiana.....	19	2,064	1,920,026	5,039,863	11,531,366	6,491,503
Iowa.....	7	358	430,370	667,604	1,890,714	1,223,110
Kansas.....	4	40	55,570	175,330	261,193	85,863
Massachusetts.....	16	1,563	1,795,429	2,631,653	7,373,627	4,741,974
Michigan.....	25	1,608	1,162,371	3,672,390	8,108,012	4,435,622
Minnesota.....	7	235	256,602	580,705	1,750,317	1,168,412
Missouri.....	5	52	71,639	178,135	392,772	214,637
New Jersey.....	12	1,553	2,282,003	2,033,524	7,949,522	5,915,998
New York.....	32	1,413	1,585,147	2,765,819	7,126,724	4,360,905
Ohio.....	37	2,031	2,369,099	5,026,099	11,139,164	6,113,065
Pennsylvania.....	21	1,301	1,492,778	2,990,679	6,297,510	3,506,831
Washington.....	5	23	27,748	74,356	214,068	139,732
Wisconsin.....	6	349	259,138	608,388	1,741,264	1,132,876
Other States ⁴	27	617	779,264	1,597,630	4,496,230	2,898,600

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.
² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ No comparable figures can be given for earlier years.

⁴ Arkansas, 2 establishments; Colorado, 1; Connecticut, 3; Florida, 1; Idaho, 1; Kentucky, 1; Louisiana, 1; Nebraska, 2; North Carolina, 2; Oklahoma, 4; Oregon, 1; South Carolina, 1; Tennessee, 3; Texas, 2; Vermont, 1; Virginia, 1.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, AND 1914, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States													
1931	15,156	16,305	16,007	16,095	16,228	16,255	15,758	15,356	14,850	14,310	13,813	13,500	13,598
1929	23,106	21,070	22,162	22,611	23,234	23,686	23,978	23,954	24,044	23,672	23,551	22,839	22,469
1927	17,935	16,585	16,995	17,198	17,805	18,708	18,892	18,925	18,531	18,420	17,983	17,615	17,562
1919	16,072	16,500	16,466	16,512	16,297	16,039	15,022	15,350	15,713	15,590	15,810	16,201	16,899
1914	8,322	8,855	8,871	8,882	8,797	8,643	8,559	8,498	8,269	8,024	7,672	7,562	7,412
States, 1931													
California	1,204	1,203	1,223	1,267	1,353	1,403	1,349	1,263	1,178	1,091	1,043	1,020	1,052
Illinois	745	717	738	759	795	773	788	789	748	735	719	703	671
Indiana	2,064	2,278	2,275	2,370	2,419	2,389	2,127	1,996	1,871	1,744	1,748	1,754	1,797
Iowa	358	404	412	390	363	358	340	376	410	373	292	307	276
Kansas	40	23	26	26	31	35	43	66	53	49	45	42	40
Massachusetts	1,563	1,590	1,522	1,509	1,496	1,627	1,689	1,626	1,600	1,589	1,520	1,509	1,493
Michigan	1,608	1,987	1,950	1,904	1,931	1,756	1,582	1,569	1,504	1,366	1,293	1,240	1,235
Minnesota	235	251	245	254	258	248	246	240	220	204	200	213	234
Missouri	52	56	64	61	62	43	39	50	55	58	41	47	48
New Jersey	1,553	1,761	1,645	1,634	1,630	1,625	1,612	1,526	1,476	1,446	1,433	1,417	1,431
New York	1,413	1,458	1,433	1,456	1,430	1,503	1,514	1,490	1,451	1,415	1,310	1,276	1,222
Ohio	2,681	2,090	2,037	2,068	2,083	2,108	2,098	2,092	2,032	2,031	1,998	1,901	1,840
Pennsylvania	1,301	1,434	1,383	1,339	1,329	1,362	1,358	1,285	1,277	1,269	1,225	1,151	1,106
Washington	23	25	25	25	25	25	25	24	25	25	18	18	18
Wisconsin	349	369	342	337	352	350	362	353	354	350	356	357	309
No comparable figures for													

No comparable figures can be given for earlier years.

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, 1931, AND BY KIND AND VALUE, 1929

[The figures for 1929 as given in this table differ considerably from those published in the report for that year because of the fact that the data have been revised and regrouped in accordance with the 1931 classification of products. The figures for 1931 represent production; those for 1929 refer to sales (shipments or deliveries) by manufacturers]

KIND	1931		1929
	Number	Value	Value
1. Pumps (Hand and Power) and Pumping Equipment industry, all products, total value			
2. Pumps and pumping equipment		\$84,353,391	\$164,009,397
3. Spare parts and attachments		60,403,860	115,960,981
4. Other products (not normally belonging to the industry)		0,395,397	11,678,801
5. Amount received for repair work		11,266,252	28,023,706
6. Pumps and pumping equipment made as secondary products in other industries, value		6,287,882	8,046,409
Pumps and pumping equipment, all industries:			
Aggregate value (sum of 2 and 6)		11,621,938	16,786,626
Hand pumps except gasoline filling-station, grease, oil, and spray:		72,025,798	132,747,607
Air pumps (tire and other), total value	(¹)	769,357	1,712,977
Number reported			
Number not reported	1,034,081	362,925	(¹)
Water pumps:		406,432	
Reciprocating			
Other	294,756	899,283	
Other hand pumps except gasoline filling-station, grease, oil, and spray	21,201	110,138	2,244,267
See footnotes at end of table.	28,817	343,485	624,974

PUMPS (HAND AND POWER) AND PUMPING EQUIPMENT 1005

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, 1931, AND BY KIND AND VALUE, 1929—Continued

[See note at head of table]

KIND	1931		1929
	Number	Value	Value
Pumps and pumping equipment—Continued.			
Windmill pumps.....	54, 518	\$445, 584	\$668, 552
Gasoline filling-station pumps (hand and power), with and without tanks, total value.....	(1)	14, 961, 152	27, 483, 532
Number reported.....	185, 828	14, 397, 681	(1)
Number not reported.....		563, 471	
Grease pumps and guns (hand and power).....	245, 284	1, 758, 556	8, 729, 290
Oil pumps (hand and power).....	(1)	4, 078, 417	
Domestic water systems, complete:			9, 760, 776
Deep-well systems (for use where lift exceeds 25 feet).....	17, 231	1, 374, 943	
Shallow-well systems (for use where lift does not exceed 25 feet).....	73, 655	3, 773, 411	
Water-well pumps, power-driven, for sale as such:			7, 415, 820
Shallow-well pumps.....	12, 443	838, 533	
Deep-well pumps:			5, 171, 318
Reciprocating.....	4, 528	394, 499	
Turbine.....	6, 849	5, 330, 048	5, 659, 475
Oil-well pumps ²	10, 709	997, 913	
Vacuum pumps ³	5, 878	2, 686, 393	
Spraying and dusting outfits, hand and power, complete:			
Paint sprayers, total value.....	(1)	2, 068, 005	
Number reported.....	19, 612	1, 261, 276	7, 589, 154
Number not reported.....		806, 729	
Chemical sprayers (for liquids):			7, 589, 154
Hand, with tank, barrel, knapsack, etc., except household and similar sprayers.....	229, 384	635, 789	
Power, including self-propelled.....	4, 950	1, 367, 785	
Traction.....	933	144, 373	
Chemical dusters:			3, 767, 745
Hand, except household, total value.....	(1)	79, 346	
Number reported.....	5, 835	50, 294	3, 767, 745
Number not reported.....		29, 032	
Power, including self-propelled.....	1, 013	167, 239	3, 767, 745
Traction.....	1, 134	253, 941	
Spray pumps for sale as such (not included above).....	454, 390	404, 261	3, 767, 745
Sprayers, hand (household and other small types).....	7, 157, 457	793, 412	
Spray guns or nozzles for sale separately (for use with spraying outfits), total value.....	(1)	470, 815	
Number reported.....	48, 712	371, 877	540, 878
Number not reported.....		96, 698	
Washers, automobile, hand and power.....	4, 331	424, 159	125, 523
Hydraulic rams.....	1, 604	28, 993	
Power-driven and power pumps not elsewhere specified: ⁴			22, 539, 154
Centrifugal pumps (horizontal and vertical), except sewage, sump, and bilge pumps, total value ⁵	(1)	9, 950, 116	
Number reported.....	40, 945	9, 372, 607	(1)
Number not reported.....		577, 509	
Sewage, sump, and bilge pumps ⁶	5, 174	1, 403, 200	7, 747, 794
Reciprocating pumps:			
Direct-acting steam.....	8, 624	3, 045, 479	8, 908, 287
Other reciprocating except oil-well and water-well pumps.....	14, 992	4, 254, 659	
Rotary pumps:			6, 274, 847
Gear type.....	82, 186	1, 941, 665	
Other types, total value ⁷	(1)	1, 292, 477	
Number reported.....	15, 106	1, 084, 672	(1)
Number not reported.....		207, 805	
Other power-driven and power pumps (not listed above) ⁸	49, 633	462, 209	808, 362
Pump jacks.....		327, 736	
Cylinders for sale separately.....		680, 362	3, 611, 350
Miscellaneous pumps and pumps not reported by kind ⁹		3, 068, 065	

¹ Data incomplete.

² Well pumps only; does not include oil-line, refinery, and "cracking" pumps, etc., which are classified under "Power-driven and power pumps not elsewhere specified."

³ Includes steam-heating and condensation pumps.

⁴ A "power pump," as the term is here used, may be technically described as a "positive-displacement pump operated through cranks and rods by application of power to the crankshaft."

⁵ Includes value of diffuser (turbine) and volute types but not that of deep-well centrifugal-turbine pumps. The latter is included in the figure for deep-well turbine pumps.

⁶ Both centrifugal and screw types.

⁷ Includes screw-type rotary pumps.

⁸ Includes diaphragm, flat-box, an machine-tool pumps, jets, and pulsometers.

⁹ Includes pumps used in connection with oil burners and internal-combustion engine water and oil circulation, carburetor feed pumps, and fuel-injection pumps for Diesel engines.

RADIO APPARATUS AND PHONOGRAPHS

[A preliminary report for this industry was issued under date of Oct. 4, 1932]

Description of the industry.—This industry classification embraces the products of establishments engaged wholly or principally in the manufacture of radio apparatus, phonographs, and parts and accessories (for either or for both). At former censuses the manufacture of phonographs was treated as a separate industry, but the increasing production of radio apparatus by manufacturers of phonographs and the introduction of the combination radio-phonograph unit made it desirable to establish the present classification. Manufacturers of radio apparatus were formerly classified in the Electrical Machinery, Apparatus, and Supplies industry. The schedule for this industry did not call for detailed data on the production of radio apparatus, and therefore no comparable statistics, except for a few items, can be given for years prior to 1931. (See footnote 1, table 3.)

TABLE 1.—SUMMARY BY STATES: 1931

[Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than one of the States (Minnesota) shown separately]

	Number of establishments	Wage earners (average for year)	Wages	Cost of materials, containers, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
United States.....	217	36,490	\$35,145,577	\$88,402,858	\$193,142,845	\$104,730,087
California.....	26	449	765,070	2,483,009	4,454,700	1,971,601
Connecticut.....	5	569	507,193	445,202	3,056,304	2,611,102
Illinois.....	44	5,783	4,590,304	16,749,448	35,061,288	18,311,840
Indiana.....	5	1,517	1,186,457	8,535,220	14,219,164	5,683,044
Massachusetts.....	16	2,954	2,586,586	4,277,011	11,228,127	6,951,116
Michigan.....	10	1,338	1,075,834	2,800,493	4,656,318	1,855,825
Minnesota.....	9	88	77,159	351,541	605,188	253,647
New Jersey.....	18	9,944	10,683,430	17,102,359	37,071,600	19,969,241
New York.....	46	3,996	4,028,945	7,929,797	19,147,530	11,217,783
Ohio.....	11	2,844	2,286,482	7,081,888	15,376,840	8,294,952
Pennsylvania.....	8	5,676	6,342,018	17,127,780	42,373,584	25,245,804
Other States ²	19	1,332	965,499	3,519,110	5,892,202	2,379,092

¹ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

² District of Columbia, 1 establishment; Iowa, 4; Kansas 1; Kentucky, 1; Missouri, 1; Nebraska, 2; Rhode Island, 3; Utah, 1; Washington, 2; Wisconsin, 3.

TABLE 2.—WAGE EARNERS, BY MONTHS, BY STATES: 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States.	30,490	37,475	36,230	34,210	34,552	30,452	30,976	33,145	38,394	47,010	45,640	40,205	39,579
California	449	561	492	515	495	458	405	393	399	419	428	376	447
Connecticut	569	648	644	646	599	577	526	521	539	634	531	533	531
Illinois	5,783	5,718	8,029	8,094	6,089	4,012	2,835	3,113	4,507	8,106	8,652	6,451	3,553
Indiana	1,517	1,890	1,708	1,547	1,526	1,405	1,353	1,479	1,392	1,601	1,535	1,502	1,460
Massachusetts	2,954	2,976	2,981	2,877	3,582	3,300	3,093	3,143	3,181	3,145	3,115	2,195	1,465
Michigan	1,338	736	<i>614</i>	650	829	949	1,381	1,599	1,894	2,567	2,077	2,026	695
Minnesota	88	97	103	105	103	90	87	83	82	71	67	87	87
New Jersey	9,944	12,670	10,059	8,690	8,528	8,181	8,095	8,528	9,047	12,075	12,545	12,592	8,342
New York	3,996	3,967	4,225	4,118	3,905	3,749	3,741	3,714	4,216	4,449	4,398	3,952	3,518
Ohio	2,844	2,693	2,288	2,250	2,384	2,107	2,836	3,507	3,567	3,744	3,609	3,194	4,351
Pennsylvania	5,676	4,611	4,220	3,600	5,143	4,278	5,329	5,754	7,855	8,464	7,034	6,957	5,565

TABLE 3.—RADIO APPARATUS AND PHONOGRAPHS—PRODUCTION, BY KIND, QUANTITY, AND VALUE: 1931

[No comparable figures can be given for any earlier census year. Footnote 1, however, gives, for 1929, figures based on the classifications in use at the census for that year]

	Number	Value
1. Radio Apparatus and Phonographs industry, all products, ¹ total value.....		\$ 193,142,845
2. Radios, phonographs, and apparatus.....		" 187,717,880
3. Other products (not normally belonging to the industry).....		4,479,966
4. Receipts for custom work, contract work, and repairs.....		944,999
5. Radios, phonographs, and apparatus made as secondary products in other industries.....		7,664,276
Radios, phonographs, and apparatus, all industries:		" 195,362,156
Aggregate value (sum of 2 and 5).....		
Receiving sets, complete (cabinets, chassis, speakers, and tubes, total value).....	(2)	117,836,744
Number reported.....	3,745,682	116,706,708
Number not reported.....	3,648,383	1,131,036
For the home, total.....		113,395,803
Covering standard broadcast band:		
Socket-power-operated:		
Factory price not over \$11.....	55,931	576,631
Over \$11 but not over \$18.....	470,465	7,613,110
Over \$18 but not over \$30.....	1,510,749	36,678,082
Over \$30 but not over \$45.....	924,362	30,954,751
Over \$45 but not over \$65.....	311,748	15,853,727
Over \$65.....	201,310	16,059,176
Battery-operated (excluding batteries):		
Factory price not over \$27.....	11,490	272,379
Over \$27 but not over \$40.....	16,263	477,170
Over \$40.....	21,455	1,040,882
Extending beyond standard broadcast band:		
All-wave receivers, both socket-power and battery operated (excluding batteries).....	11,078	603,162
Home receiving sets not distributed as to kind or type.....	113,572	3,266,733
Automobile sets:		
Battery-operated, except police sets.....	92,820	2,964,209
Police sets, both battery-operated and power-operated, and other automobile sets, power-operated.....	3,325	111,982
Aircraft sets, including all accessory equipment except batteries.....	757	216,797
Television sets or kits, complete.....	427	16,917
Receiving sets for commercial use.....	(3)	271,847
All other receiving sets.....	(3)	394,622
Combined portable receiver and transmitter.....	(3)	464,527

See footnotes at end of table.

TABLE 3.—RADIO APPARATUS AND PHONOGRAPHS—PRODUCTION, BY KIND, QUANTITY, AND VALUE: 1931—Continued

[See note at head of table]

	Number	Value
Radios, phonographs, and apparatus, all industries—Continued.		
Combination radio and phonograph units.....	73, 603	\$6, 310, 442
Transmitters (including all associated equipment):		
Broadcast type:		
Under 1,000-watt output.....	128	254, 327
1,000-watt output.....	23	219, 623
Over 1,000-watt output.....	31	159, 553
Television.....	4	19, 060
Aircraft.....	270	180, 437
Ship.....	274	979, 736
Other transmitters for use at fixed locations, and for services not specified above.....	370	588, 111
Phonographs and accessories:		
Phonographs for mechanical reproduction of records, including cabinets.....	37, 152	530, 388
Phonographs for electrical reproduction of records, including cabinets and tubes.....	11, 152	1, 148, 957
Phonographs, number and class not reported.....		820, 506
Records:		
Factory price not over 13 cents.....	11, 843, 331	918, 205
Over 13 cents but not over 25 cents.....	7, 745, 302	1, 306, 147
Over 25 cents but not over 50 cents.....	9, 177, 904	3, 355, 709
Over 50 cents.....	2, 084, 745	2, 117, 726
Needles.....	(3)	434, 301
Public-address and theater (not including motion-picture theater) sound-reproducing equipment and home talking-moving-picture combinations.	(3)	4, 511, 542
Miscellaneous:		
Receiving-set chassis for sale separately as such ¹	405, 042	7, 863, 340
Microphones (all types).....	10, 225	187, 035
Loud-speakers for sale separately as such ²	(3)	4, 647, 854
Other apparatus and products (including dictating machines ³ and record blanks) associated with radio and phonograph equipment.....		11, 650, 504
Receiving tubes for renewal purposes:		
Alternating-current.....	9, 245, 485	5, 581, 080
Direct-current (for less than 5-volt filament).....	1, 573, 360	1, 190, 647
Direct-current (for 5-volt filament and over).....	2, 676, 285	1, 402, 480
Rectifiers (intended primarily for use with receiving sets).....	1, 299, 854	680, 722
Not reported by kind.....	9, 523, 062	4, 859, 117
Receiving tubes for initial equipment: ⁴		
Alternating-current.....	11, 479, 136	5, 653, 473
Direct-current (for less than 5-volt filament).....	380, 578	190, 535
Direct-current (for 5-volt filament and over).....	1, 133, 654	538, 619
Rectifiers (intended primarily for use with receiving sets).....	1, 393, 274	551, 701
Not reported by kind.....	10, 558, 154	6, 329, 189
Transmitting tubes:		
Three-electrode low-power.....	50, 418	472, 341
Screen-grid.....	6, 225	134, 392
Three-electrode, air-cooled, 250 watts to 1 kilowatt.....	3, 587	282, 502
Three-electrode, water or oil cooled, 2½ kw. and over.....	2, 332	520, 953
Light-sensitive (all sizes, all purposes); other, primarily for industrial control apparatus; value.....	(3)	448, 726
Rectifier tubes:		
Low-power, 500 watts and under.....	16, 689	129, 957
High-power, above 500 watts.....	8, 114	368, 736

¹ The 1929 figures for radio apparatus and phonographs are as follows: Total, \$476,041,054; receiving sets (except crystal and short-wave sets), 4,980,090, valued at \$252,787,249; crystal and short-wave sets, \$472,803; loud-speakers, 3,338,522, valued at \$30,550,637; combination radio and phonograph units, 152,107, valued at \$22,193,702; transmitting sets, \$5,788,077; transformers, replacement parts, and head sets, \$17,832,037; tubes, 191,938,812, valued at \$82,012,807; phonographs (including dictating machines), 603,273, valued at \$20,833,021; records and blanks, \$34,128,735; needles, \$1,971,774; phonograph cabinets and parts and accessories, \$7,470,212.

² Includes some duplication. See footnote 5.

³ Data incomplete.

⁴ Combined to avoid disclosing approximations of data for individual establishments.

⁵ This item is duplicated in the totals and aggregate at the head of the table, to the extent to which the product was sold to manufacturers of complete radio receiving sets for installation in such sets made within the year 1931.

⁶ The figures for dictating machines cannot be published separately without disclosing data for individual establishments.

REFRIGERATORS, MECHANICAL

Description of the industry.—This industry classification embraces the products of establishments engaged wholly or principally in the manufacture of mechanical refrigerators and refrigerating systems¹ (both domestic and commercial) using refrigerants other than ammonia. This class of refrigerators includes not only the motor-driven or compression type but also the absorption type; that is, that which uses heat to actuate the cooling medium. Manufacturers of cabinets for sale as such, whether for use with mechanical refrigerating systems or for use with ice, are classified in the Refrigerators and Refrigerator Cabinets, Exclusive of Mechanical Refrigerating Equipment industry. (See p. 466.) The manufacture of mechanical refrigerators was first treated as a separate industry at the census for 1927, but the information obtained for 1927 and 1929 was restricted as to detail, and consequently no detailed product figures can be given for those years.

It is impossible to calculate, from the census records, the total number of complete mechanical refrigerators (cabinets with the refrigerating systems installed) manufactured, for the reason that certain manufacturers of refrigerating systems purchase their cabinets, or manufacture them in plants other than those in which the systems are made, and have them shipped to warehouses for assembly. In these cases both the manufacturers of the systems and the manufacturers of the cabinets report separately to the Bureau of the Census, but no reports are made for the assembling done in their warehouses. Moreover, certain dealers purchase refrigerating mechanisms and cabinets from the manufacturers and have them shipped to warehouses for assembly. These dealers do not, of course, report to the Bureau of the Census as manufacturers. Thus the census figures show the entire output of refrigerating systems for sale as such by manufacturers, of cabinets for sale as such by manufacturers, and of complete refrigerators for sale as such by manufacturers, but do not show the total number of complete refrigerators produced, including those assembled in warehouses. For statistics on the production of refrigerators and refrigerator cabinets, exclusive of mechanical refrigerating equipment. (See p. 466.)

¹The term "system," as used here, refers to a complete assembly, consisting of "high side" and "low side," with motor, control, and expansion valve or its equivalent. The cabinet is not a part of the system.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1931, 1929, AND 1927, AND FOR STATES, 1931

[Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. One of the "Other States," namely, Ohio, is, however, more important in the industry than any of the States shown separately. See sec. 3d, p. 4]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	36	15,624	\$20,146,306	\$61,670,024	\$144,151,223	\$32,481,199
1929.....	34	16,883	26,196,076	72,413,047	161,565,676	89,162,629
1927.....	22	11,285	17,712,006	42,651,262	96,513,649	53,802,587
Percent of increase or decrease (—):						
1929-31.....	(³)	—7.5	—23.1	—14.8	—10.8	—7.5
1927-29.....	(³)	49.6	47.9	69.8	67.4	65.5
<i>States, 1931</i>						
California.....	4	167	\$256,985	\$704,007	\$1,315,100	\$611,693
Indiana.....	4	3,106	3,505,710	8,456,847	20,908,850	12,452,063
Michigan.....	4	1,754	2,502,328	15,571,717	29,769,309	14,197,692
Other States ⁴	24	10,597	13,881,283	36,937,453	92,157,964	55,220,511

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 0.

² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ Percent not computed where base is less than 100.

⁴ Georgia, 1 establishment; Illinois, 3; Iowa, 1; Maryland, 1; Massachusetts, 2; Missouri, 2; Nebraska, 1; New Jersey, 1; New York, 3; Ohio, 4; Oregon, 1; Pennsylvania, 2; Rhode Island, 1; Washington, 1.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931 AND 1929, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

	Average number em- ployed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931-----	15,624	11,554	14,632	17,508	17,923	19,956	18,547	16,004	15,567	14,239	14,276	13,487	13,789
1929-----	16,883	13,719	15,436	16,564	20,023	19,914	20,233	19,523	17,182	13,756	14,492	13,581	13,170
<i>States, 1931</i>													
California-----	167	111	112	118	129	134	167	204	233	231	231	180	167
Indiana-----	3,106	2,687	3,115	3,431	3,759	3,727	3,298	3,133	3,241	3,105	3,075	2,436	2,470
Michigan-----	1,754	1,438	1,626	1,884	1,953	2,021	1,543	1,578	1,568	2,018	2,118	1,785	1,482

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1931

[The figures for 1931 represent production; those for 1929 refer to sales (shipments or deliveries) by manufacturers. See sec. 16, p. 9]

	1931	1929
1. Mechanical Refrigerator industry, all products, total value.....	\$144, 151, 223	\$161, 565, 676
2. Mechanical refrigerators and refrigerating systems ¹ (using refrigerants other than ammonia).....	136, 025, 089	² 147, 080, 844
3. Other products (not normally belonging to the industry).....	7, 426, 698	² 14, 484, 832
4. Receipts for custom and repair work.....	699, 436	-----
5. Mechanical refrigerators, etc., made as secondary products in other industries, value.....	7, 653, 484	3, 228, 365
Mechanical refrigerators, etc., all industries, aggregate value (sum of 2 and 5).....	\$143, 678, 573	² \$150, 309, 209
Domestic (household)—Compression type (electric):		
Household, with cabinets:		
Total number.....	708, 894	
Total value.....	\$90, 447, 442	
Capacity under 6 cu. ft.:		
Sulphur dioxide:		
Number.....	384, 000	
Value.....	\$43, 144, 479	
Methyl chloride:		
Number.....	47, 934	
Value.....	\$4, 916, 339	
6 cu. ft. or more but under 10 cu. ft.:		
Sulphur dioxide:		
Number.....	247, 432	
Value.....	\$36, 117, 322	
Methyl chloride:		
Number.....	13, 464	
Value.....	\$2, 231, 436	
10 cu. ft. or more:		
Number.....	16, 064	
Value.....	\$4, 037, 866	
Household, complete systems, ¹ without cabinets, all sizes:		
Total number.....	117, 166	
Total value.....	\$9, 240, 854	
Sulphur dioxide:		
Number.....	107, 133	
Value.....	\$8, 537, 149	(³)
Methyl chloride:		
Number.....	10, 033	
Value.....	\$703, 705	
Commercial—Compression type (electric):		
Water coolers, complete with refrigerating systems: ¹		
Total number.....	20, 341	
Total value.....	\$2, 230, 690	
Sulphur dioxide:		
Number.....	18, 745	
Value.....	\$1, 976, 533	
Methyl chloride:		
Number.....	1, 596	
Value.....	\$254, 157	
Ice-cream cabinets, complete with evaporator or cooling unit and compressor:		
Number.....	52, 500	
Value.....	\$10, 695, 543	
Other complete commercial refrigerators (compressor, cooling coil, or evaporator, and cooler or display case):		
Number.....	34, 465	
Value.....	\$2, 563, 646	
Compressors and evaporators, ⁴ for sale separately (all sizes), value.....	\$12, 824, 169	
Absorption-type refrigerators and parts for all types, value.....	\$15, 645, 929	

¹ The term "system," as used here, refers to a complete assembly, consisting of "high side" and "low side," with motor, control, and expansion valve or its equivalent. The cabinet is not a part of the system.

² Revised.

³ No comparable data for 1929. See explanation in first paragraph of text.

⁴ The value of evaporators for sale separately has been combined with that of compressors to avoid disclosing approximations of the data reported by individual establishments.

SCALES AND BALANCES

[A preliminary report for this industry was issued under date of July 21, 1932]

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of scales and balances of all descriptions—stationary and portable, light and heavy, spring and beam, counter and platform—and weighing machinery. Many of the scales and weighing machines have automatic computing devices. Coin-operated mechanisms for weighing, laboratory scales and weights, and scale parts are also made by establishments covered by this classification.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. One of the "Other States," namely, Ohio, is, however, more important in the industry than Illinois, shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³
<i>United States</i>						
1931.....	54	2,814	\$3,232,752	\$3,644,457	\$14,561,273	\$10,916,816
1929.....	59	4,118	5,905,475	7,438,190	30,381,424	22,043,234
1927.....	60	3,906	5,460,742	7,453,927	24,655,442	17,201,515
1925.....	71	4,292	5,782,660	7,348,704	27,237,181	19,888,477
1923.....	65	4,245	5,500,035	6,594,483	24,156,982	17,562,460
1921.....	65	3,720	4,427,986	4,716,313	15,884,770	11,168,457
1919.....	79	5,432	6,533,978	6,993,682	20,641,038	13,647,356
1914.....	83	4,467	2,933,696	3,174,467	9,733,721	6,559,254
1909.....	87	3,559	2,186,230	2,703,997	8,785,642	6,081,645
1904.....	85	3,133	1,754,789	1,633,150	6,002,638	4,369,488
1899.....	86	2,775	1,436,839	1,533,379	5,239,788	3,706,409
Percent of increase or decrease						
(-):						
1929-31.....	(9)	-31.7	-46.1	-51.0	-52.1	-52.4
1927-29.....	(9)	5.4	9.8	-2	23.2	33.4
1925-27.....	(9)	-9.0	-5.6	1.4	-9.5	-13.5
1923-25.....	(9)	1.1	5.1	11.4	12.8	13.2
1921-23.....	(9)	14.1	24.2	39.8	52.1	57.3
1919-21.....	(9)	-31.5	-32.2	-32.6	-23.0	-18.2
1921-31.....	(9)	-24.4	-27.0	-22.7	-8.3	-2.3
1919-29.....	(9)	-24.2	-8.2	6.4	47.2	63.1
1909-19.....	(9)	52.6	198.9	168.6	134.0	124.4
1899-1909.....	(9)	28.3	52.2	76.3	67.7	64.1
<i>States, 1931</i>						
Illinois.....	12	467	\$578,719	\$812,924	\$2,591,948	\$1,779,024
New Jersey.....	6	212	274,782	213,852	851,179	637,327
New York.....	9	372	515,009	550,702	1,684,596	1,133,894
Pennsylvania.....	6	111	115,000	114,445	395,168	280,723
Other States ⁴	21	1,652	1,749,242	1,952,534	9,038,382	7,085,848

¹ The cost of mill supplies is included in the figures for 1927 and earlier years, but not in those for 1929 and 1931.

² For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

³ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

⁴ Percent not computed where base is less than 100.

⁵ California, 1 establishment; Colorado, 1; Indiana, 1; Kentucky, 1; Massachusetts, 2; Michigan, 2; Minnesota, 1; Missouri, 2; Ohio, 6; Utah, 1; Vermont, 2; Wisconsin, 1.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

p. 8]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931.....	2,814	2,089	2,058	2,992	2,949	2,906	2,821	2,810	2,769	2,778	2,711	2,614	2,473
1929.....	4,118	8,901	4,011	4,145	4,063	4,061	4,121	4,157	4,206	4,257	4,259	4,165	4,067
1925.....	4,292	4,034	4,118	4,170	4,233	4,317	4,316	4,312	4,382	4,397	4,421	4,392	4,405
1919.....	5,432	4,887	5,003	4,994	5,135	5,239	5,268	5,498	5,720	5,755	5,852	5,887	5,948
1914.....	4,467	4,659	4,867	4,885	4,774	4,704	4,711	4,616	4,460	4,118	4,005	3,941	3,864
1909.....	3,559	3,260	3,387	3,479	3,538	3,552	3,568	3,503	3,667	3,704	3,715	3,636	3,691
<i>States, 1931</i>													
Illinois.....	467	504	498	458	477	479	461	438	470	465	465	429	429
New Jersey.....	212	226	224	223	218	219	213	213	210	214	216	193	179
New York.....	372	372	399	429	418	407	361	352	333	348	358	349	329
Pennsylvania.....	111	126	125	124	121	109	110	106	106	104	102	100	98

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1927 TO 1931

KIND	1931	1929	1927
1. Scales and balances industry, all products, total value.....	\$14,561,273	\$30,381,424	\$24,655,442
2. Scales and balances, parts, and attachments.....	12,046,092	24,700,522	21,505,756
3. Other products (not normally belonging to the industry), value.....	1,758,826	4,628,358	3,149,686
4. Receipts for contract and repair work.....	756,445	1,052,544	
5. Scales and balances made as secondary products in other industries, value.....	473,634	1,354,325	768,774
Scales and balances, parts, and attachments, all industries:			
Aggregate value (sum of 2 and 5).....	12,519,636	26,054,847	22,274,530
Scales:			
Automatic industrial:			
Number.....	6,609	21,161	60,736
Value.....	\$1,832,535	\$4,589,733	
Calculating and computing:			\$10,905,179
Number.....	32,125	58,006	
Value.....	\$4,016,640	\$9,070,021	
Beam, including steelyards:			
Number.....	101,707	155,241	161,489
Value.....	\$2,372,156	\$5,084,861	\$4,464,048
Spring, other than computing:			
Bathroom:			
Number.....	138,047	620,061	(1)
Value.....	\$661,231		
Other:		\$2,184,099	\$1,560,021
Number.....	357,574		
Value.....	\$810,461		
Coin-operated:			
Number.....	19,986	8,637	(1)
Value.....	\$1,412,051	\$1,447,419	\$1,266,340
Balances:			
Number.....	39,826	41,788	48,600
Value.....	\$553,880	\$1,277,115	\$1,277,544
Other weighing devices, and scales and balances not reported as to type, value.....	\$413,220	\$1,731,938	\$2,693,166
Parts and attachments, value.....	\$447,462	\$699,661	\$108,232

1 Number not reported.

SEWING MACHINES AND ATTACHMENTS

[A preliminary report for this industry was issued under date of Aug. 3, 1932]

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of sewing machines (hand, foot, and power) for home and for factory use.

Establishments engaged primarily in the manufacture of sewing-machine cases, cabinets, and tables, which were formerly treated as belonging to this industry, were assigned at the census for 1929 to the Furniture, Including Store and Office Fixtures industry. The figures for Sewing Machines and Attachments for 1927 have been adjusted by omission of the data for establishments manufacturing sewing-machine cases, cabinets, and tables, but those for prior years cannot be so adjusted and consequently are not included in this report.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1927 TO 1931, AND FOR STATES, 1931

[Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. One of the "Other States," namely, New Jersey, is, however, more important in the industry than any of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	34	8,090	\$8,791,969	\$6,090,980	\$20,148,125	\$14,057,145
1929.....	39	10,467	14,976,182	16,458,425	45,094,600	28,639,175
1927 ³	35	9,997	13,748,151	14,072,579	30,723,822	25,651,243
Percent of increase or decrease (—):						
1929-31.....	(4)	-22.7	-41.3	-63.0	-55.3	-50.9
1927-29.....	(4)	4.7	8.9	17.0	13.5	11.6
<i>States, 1931</i>						
Connecticut.....	3	1,539	\$1,514,812	\$345,632	\$2,546,612	\$2,200,980
Illinois.....	4	954	921,731	1,360,532	3,896,053	2,535,521
Massachusetts.....	6	182	233,061	95,040	595,596	500,556
New York.....	13	109	125,669	139,122	617,067	477,945
Other States ⁴	8	5,276	5,996,696	4,150,654	12,492,797	8,342,143

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ No comparable data for years prior to 1927. (See second paragraph of text, above.)

⁴ Not computed where base is less than 100.

⁵ Maryland, 1 establishment; Missouri, 2; New Jersey, 1; Ohio, 2; and Pennsylvania, 2.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931 AND 1929, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931-----	8,090	8,958	8,815	8,537	8,236	8,114	7,856	7,779	7,767	7,801	7,805	7,745	7,664
1929-----	10,467	10,227	10,342	10,381	10,460	10,455	10,534	10,501	10,589	10,531	10,576	10,571	10,451
<i>States, 1931</i>													
Connecticut-----	1,539	1,661	1,616	1,602	1,547	1,543	1,536	1,516	1,537	1,494	1,468	1,468	1,487
Illinois-----	984	1,113	1,096	1,109	1,111	1,025	901	898	917	906	915	924	899
Massachusetts-----	182	218	208	178	181	177	173	170	178	178	178	171	169
New York-----	109	111	110	106	100	107	107	111	109	111	110	103	118

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1927 TO 1931

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9. No comparable figures can be given for years prior to 1927]

KIND	1931	1929	1927
1. Sewing Machines and Attachments industry, all products, total value-----	\$20,148,125	\$45,094,600	\$39,723,822
2. Sewing machines, parts, and attachments-----	17,248,379	40,465,659	34,139,045
3. Other products (not normally belonging to the industry), value-----	2,777,574	4,223,893	5,584,777
4. Receipts for contract and repair work-----	122,172	405,048	
5. Sewing machines made as secondary products in other industries, value-----	178,500	494,443	786,100
Sewing machines, parts, and attachments, all industries: Aggregate value (sum of 2 and 5)-----	17,426,879	40,960,102	34,925,145
Sewing machines:			
Total number-----	298,610	793,748	880,715
Total value-----	\$15,252,407	\$37,378,210	\$32,934,450
Household types:			
Total number-----	231,569	669,027	763,959
Total value-----	\$7,621,755	\$25,095,008	\$21,794,174
Electric:			
Number-----	166,216	323,474	309,969
Value-----	\$6,129,440	\$16,481,823	\$12,700,443
Foot and hand:			
Number-----	65,353	345,553	453,990
Value-----	\$1,492,315	\$8,613,185	\$9,093,731
Industrial types: ¹			
Number-----	67,041	122,641	102,758
Value-----	\$7,630,632	\$12,091,736	\$10,407,733
Sewing machines not reported as to type:			
Number-----		2,060	13,996
Value-----		\$281,466	\$732,543
Parts and attachments, value-----	\$2,174,472	\$3,581,892	\$1,990,695

¹ Because of the incompleteness of the returns from manufacturers, it is impossible to compile separate figures for either electric or other industrial sewing machines.

TEXTILE MACHINERY AND PARTS

[A preliminary report for this industry was issued under date of Sept. 7, 1932]

Description of the industry.—This industry, as constituted in 1931, embraced 330 establishments, of which 122 were engaged primarily in the manufacture of complete machines of the following classes: (1) Fiber-to-fabric machinery—that is, machinery for working raw stock, and all textile-mill machinery used in subsequent processes in the preparation of yarn for weaving, knitting, etc.; (2) fabric machinery—looms, knitting machines, etc.; (3) machinery for bleaching, dyeing, printing, mercerizing, finishing, etc.; (4) miscellaneous textile machinery not included in any of the foregoing classes. Of the remainder, 150 manufactured extra parts, attachments, and accessories for textile machinery, 34 made and covered rolls, and 24 rebuilt and repaired machinery. (Establishments engaged solely in repairing are not included.)

Extra parts, attachments, etc.—The relatively large value of "Extra parts, attachments, and accessories for textile machinery," as shown in table 3—more than one third of the total value of products for the industry—is accounted for by the fact that some manufacturers of textile machinery ship a considerable proportion of their output, especially that destined for export, in the form of "knocked-down" or partly assembled machines. The records of these manufacturers do not in all cases show the numbers of complete machines represented by such shipments, and accordingly they are necessarily reported as parts.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1919 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³
<i>United States</i>						
1931.....	330	18,808	\$21,238,231	\$18,175,346	\$65,798,225	\$47,622,879
1929.....	376	27,019	37,836,406	36,556,299	122,438,514	85,882,215
1927.....	367	26,154	36,481,196	36,180,689	116,921,130	80,740,441
1925.....	379	27,860	37,463,681	39,036,868	121,653,324	82,616,466
1923.....	428	35,672	46,022,545	49,705,554	140,661,355	90,955,804
1921.....	421	31,025	38,830,660	44,903,788	128,834,896	84,031,108
1919.....	432	31,823	36,528,729	45,636,628	122,089,204	76,452,636
Percent of increase or decrease (—):						
1929-31.....	-12.2	-30.4	-43.9	-50.3	-46.3	-44.5
1927-29.....	2.5	3.3	3.7	1.0	4.7	6.4
1925-27.....	-3.2	-6.2	-2.6	-7.3	-3.9	-2.3
1923-25.....	-11.4	-21.9	-18.6	-21.5	-13.5	-6.2
1921-23.....	1.7	15.0	18.5	10.7	9.1	8.2
1919-21.....	-2.5	-2.5	6.3	-1.6	5.6	9.9
1921-31.....	-10.7	-39.4	-45.3	-59.4	-49.0	-43.3
1919-29.....	-13.0	-15.1	3.6	-19.9	.3	12.3

For footnotes, see end of table.

[See note at head of table]

* Value of products less cost of materials, fuel, and purchased services.
 † No data available for years prior to 1919.
 ‡ Alabama, 1 establishment; Delaware, 1; Iowa, 1; Kentucky, 1; Maine, 3; Maryland, 1; Michigan, 1; Ohio, 1; Texas, 1; and Vermont, 2.

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8.]

[illegible]

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931

(The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9)

Kind	1931		1929		1927		1925	
	Number	Value	Number	Value	Number	Value	Number	Value
1. Textile Machinery and Parts industry, all products, total.....		\$65,798,225		\$122,438,514		\$116,921,130		\$121,653,324
2. Textile machinery and parts.....		60,482,693		112,851,238		100,922,791		108,078,182
3. Other products (not normally belonging to the industry).....		1,190,382		2,009,414		9,085,992		5,778,646
4. Receipts for contract and repair work.....		4,125,150		6,977,862		6,912,347		7,796,596
5. Textile machinery and parts made as secondary products in other industries.....		740,243		2,673,885		1,277,069		1,275,944
Textile machinery and parts, all industries:								
Aggregate (sum of 2 and 5).....		61,222,936		115,525,123		102,199,860		109,354,126
Fiber-to-fabric machinery, total.....		9,723,860		23,106,002		22,015,037		19,879,797
Picker machines.....	358	490,030	1,741	1,903,446	2,555	2,307,454	2,467	2,221,673
Carding machines.....	371	520,430	3,290	2,847,993	(1)	3,615,213	1,163	1,702,630
Combing machines and drawing frames.....	1,682	461,139	3,572	827,723	2,937	750,895	3,376	895,399
Hoving machines.....	167	232,565	656	994,940	1,051	1,570,815	1,119	1,592,361
Spinning machines.....	2,984	3,124,480	5,419	4,858,799	3,093	3,453,461	3,271	3,787,986
Doubling and twisting frames.....	782	1,325,172	2,350	4,150,465	1,644	2,262,775	1,523	2,418,873
Winders—skein, spool, bobbin, quill, cone, etc.....	49,007	2,482,558	111,333	4,824,962	(1)	5,979,913	(1)	5,620,511
Beaming, warping, and slashing machines.....	643	1,087,486	944	2,697,674	(1)	2,074,511	(1)	1,580,364
Fabric machinery, total.....		15,649,877		29,942,030		26,730,440		31,063,595
Looms for weaving, except carpet and rug.....	10,441	5,276,270	18,772	9,027,422	27,729	11,469,788	28,264	15,173,457
Looms for weaving, carpet and rug.....	292	400,767	641	617,142	384	135,134	1,355	542,579
Knitting machines (not including hand).....	9,136	9,567,155	12,970	10,060,540	(1)	14,266,883	30,370	14,344,031
Braiding machines.....	1,898	190,938	26,988	1,043,661	5,638	768,960	3,812	815,587
Other fabric machines, including Jacquard, lace and net, embroidery, and cordage and rope machines.....		208,747		193,365		89,685		187,641
Machinery for bleaching, dyeing, printing, mercerizing, finishing, etc., stock, yarn, and cloth.....		5,295,973		9,331,864		7,643,731		7,800,379
Other textile machinery.....		3,691,876		9,302,284		5,819,664		8,569,690
Extra parts, attachments, spindles, and accessories for textile machinery ¹		26,861,350		43,842,943		39,960,988		42,040,665

¹ Data incomplete.² Revised.³ See "Extra parts, attachments, etc.," p. 1016.

WASHING MACHINES, WRINGERS, DRIERS, AND IRONING MACHINES, FOR HOUSEHOLD USE

[A preliminary report for this industry was issued under date of June 30, 1932]

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of washing machines, wringers, driers, and ironing machines, other than those used in commercial laundries, whether operated by hand or by mechanical power.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. One of the "Other States," namely, New York, is, however, more important in the industry than either Illinois or Ohio]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	59	6,201	\$7,212,342	\$24,520,948	\$50,928,564	\$26,407,616
1929.....	65	8,189	12,071,916	40,707,373	82,329,924	41,622,551
1927.....	75	7,789	10,950,046	34,528,335	70,244,407	35,716,072
1925.....	82	7,077	9,089,875	32,748,312	69,568,206	36,819,584
1923.....	85	6,144	7,839,171	25,741,775	50,372,516	24,630,741
1921.....	96	4,147	4,898,188	16,021,634	30,198,566	13,576,932
1919.....	105	5,950	6,431,378	23,388,925	40,771,285	17,382,360
1914.....	111	2,302	1,220,882	4,148,481	7,599,802	3,451,321
1909.....	100	1,835	903,789	2,837,361	5,824,889	2,987,528
1904.....	92	1,622	684,252	2,213,390	3,838,624	1,625,224
1899.....	118	1,509	548,707	2,174,762	3,735,243	1,560,451
Percent of increase or decrease (—):						
1929-31.....	(³)	-24.3	-40.3	-39.8	-38.1	-36.6
1927-29.....	(³)	5.1	10.2	17.9	17.2	16.5
1925-27.....	(³)	10.1	9.6	5.4	1.0	-3.0
1923-25.....	(³)	15.2	27.4	27.2	38.1	49.5
1921-23.....	(³)	48.2	60.0	54.9	66.8	81.4
1919-21.....	-8.6	-30.4	-23.8	-28.9	-25.9	-21.9
1921-31.....	(³)	49.5	47.2	47.5	68.6	94.5
1919-29.....	-38.1	37.5	87.7	74.0	101.9	139.5
1909-19.....	5.0	224.6	611.6	724.3	599.9	481.8
1899-1909.....	-15.3	21.6	64.7	30.5	55.9	91.4
<i>States, 1931</i>						
Illinois.....	12	1,149	\$1,527,841	\$4,884,261	\$9,997,653	\$5,113,392
Iowa.....	9	1,730	1,978,744	6,105,115	14,963,179	8,859,064
Ohio.....	10	950	890,849	3,715,498	6,167,882	2,452,386
Other States ⁴	28	2,372	2,814,908	9,815,076	19,737,850	9,982,774

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.
² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ Percent not computed where base is less than 100.

⁴ California, 5 establishments; Connecticut, 1; Indiana, 2; Michigan, 3; Minnesota, 1; Missouri, 3; New York, 6; Pennsylvania, 3; West Virginia, 1; and Wisconsin, 3.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8.]

	Average number em- ployed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States													
1931	6,201	5,912	6,556	7,017	6,882	6,563	6,115	6,080	6,077	6,261	6,156	5,518	5,273
1929	8,189	7,626	7,888	8,228	8,462	8,440	8,440	8,359	8,533	8,596	8,308	7,968	7,563
1925	7,077	6,349	6,538	6,622	6,805	6,919	7,174	7,203	7,316	7,533	7,746	7,439	7,285
1919	5,956	4,731	4,947	5,196	5,112	5,333	5,798	6,201	6,423	6,700	6,962	6,984	7,085
1914	2,302	2,371	2,461	2,512	2,503	2,528	2,321	2,316	2,182	2,191	2,173	2,046	2,029
1909	1,835	1,729	1,784	1,862	1,873	1,874	1,867	1,666	1,828	1,883	1,904	1,865	1,879
States, 1931													
Illinois	1,149	1,236	1,283	1,274	1,221	1,228	1,223	1,139	1,084	1,114	1,108	981	895
Iowa	1,730	1,698	1,827	1,882	1,835	1,844	1,720	1,732	1,743	1,704	1,679	1,577	1,513
Ohio	950	813	984	1,168	1,188	1,049	936	925	817	911	946	816	845

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9.]

KIND	1931	1929	1927	1925
1. "Washing Machines, Wringers, Driers, and Ironing Machines, for Household Use" industry, all products, total value.....	\$50,928,504	\$82,329,924	\$70,244,407	\$69,568,206
2. Washing machines, etc., and parts and accessories, value.....	48,304,724	77,905,445	67,015,573	65,835,377
3. Other products (not normally belonging to the industry).....	1,838,041	3,070,393	3,228,834	2,732,829
4. Receipts for custom and repair work.....	785,799	1,294,086		
5. Washing machines, etc., made as secondary products in other industries, value.....	1,976,639	3,047,439	2,936,612	3,925,863
Washing machines, driers, etc., and parts and accessories, all industries:				
Aggregate value (sum of 2 and 5).....	\$50,281,363	\$81,012,884	\$69,952,185	\$70,761,240
Washing machines for household use:				
Number reported:				
Number.....	883,350	1,133,860	911,576	(1)
Value.....	\$43,267,056	\$71,145,572	\$63,244,251	\$61,891,881
Number not reported, value.....	\$79,875	\$242,572		
Standard-size washing machines:				
Electric:				
Number.....	794,920	2 955,062	2 759,834	(1)
Value.....	\$39,039,293	2 \$59,930,902	2 \$55,574,397	(1)
Gasoline:				
Number.....	49,911	127,832	2 151,742	(1)
Value.....	\$3,730,862	\$10,663,135		
Other (including hand and water power):				
Number reported:				
Number.....	23,101	2 49,966	2 \$7,669,854	(1)
Value.....	\$151,047	2 \$551,535		(1)
Number not reported, value.....	\$79,875	2 \$242,572		
Apartment-size washing machines:				
Number.....	15,418	(1)	(1)	(1)
Value.....	\$345,854	(1)	(1)	(1)
Ironing machines (electric and other types):				
Number.....	44,020	(1)	(1)	(1)
Value.....	\$2,375,268	\$4,015,222	\$2,999,897	\$3,747,426
Ironing-machine attachments for washing machines:				
Number.....	26,627	(1)	(1)	(1)
Value.....	\$419,070	\$4,015,222	\$2,999,897	\$3,747,426
Wringers, driers, and extractors, value.....	\$2,140,135	\$3,607,457	\$2,895,570	\$5,151,933
Parts and accessories, value.....	\$1,999,969	\$2,002,061	\$812,467	

1 No comparable data.

2 Includes data for apartment-size washing machines.

3 Included with standard-size washing machines. See footnote 2.

4 No data.

5 Includes wringers for sale to washing-machine manufacturers for attachment to washing machines.

Group 14.—TRANSPORTATION EQUIPMENT, AIR, LAND, AND WATER

THE GROUP AS A WHOLE

This group embraces those industries which are engaged primarily in the manufacture of aircraft, vehicles for land transportation, locomotives, and water craft. The several classes of products are airplanes and seaplanes; automobiles, motor trucks, motor busses, and motorcycles; bicycles; carriages, wagons, sleighs, and sleds; baby carriages and other vehicles for children; wheelbarrows; steam and electric locomotives; steam and electric railway cars; and all types of ships and boats.

The repair shops of steam and electric railroads build some cars and locomotives, but the greater part of their work consists in the repairing of cars and locomotives, and some of it has no connection with rolling stock. For these reasons, and because of the fact that the method of valuing their production differs from the methods employed in most other industries, railroad repair shops have been classified as separate industries, in Group 15.

This group differs slightly from the corresponding one as constituted at prior censuses, because of the transfer of the class of establishments engaged primarily in the manufacture of wood felloes, hubs, spokes, etc., from the former industry classification "Carriage, Wagon, Sleigh, and Sled Materials," in Group 14, to "Wood Turned and Shaped and Other Wooden Goods, Not Elsewhere Classified," in Group 3. (See footnote 2, p. 1022.)

The combined value of products for Groups 14 and 15 for 1931 amounts to \$3,639,388,551, which represents the manufacture of all classes of transportation equipment and the repair of all railroad rolling stock. The corresponding figures for earlier years are: 1929, \$7,317,126,229; 1927, \$5,983,666,764; 1925, \$6,784,432,512; 1923, \$6,853,572,126; 1921, \$4,285,496,880.

The table beginning below presents summary statistics for the group as a whole and for each industry separately; and detailed reports for the several industries, all of which have been published previously in pamphlet form, are given on pages 1023 to 1065.

SUMMARY FOR GROUP 14.—TRANSPORTATION EQUIPMENT, AIR, LAND, AND WATER: 1921 TO 1931

INDUSTRY	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
Total for the group....	1931	2,058	373,759	\$468,609,220	\$1,736,927,675	\$2,898,625,589	\$1,161,697,914
	1929	2,550	583,355	943,221,903	3,683,148,078	6,047,209,390	2,384,061,312
	1927	2,537	494,905	803,297,856	2,907,949,399	4,693,971,606	1,786,022,207
	1925	2,778	559,578	908,487,563	3,389,101,383	5,451,753,433	2,062,652,050
	1923	3,873	606,328	963,939,377	3,394,504,710	5,333,479,375	1,938,974,665
	1921	4,273	405,773	591,333,776	1,893,011,413	3,018,154,321	1,215,142,908
Aircraft and parts.....	1931	101	9,870	15,480,647	13,101,494	40,278,278	27,176,784
	1929	132	14,710	21,923,844	27,368,103	71,152,924	43,784,821
	1927	70	4,422	6,857,014	7,517,183	21,161,853	13,644,670
	1925	44	2,701	4,222,151	2,869,967	12,524,719	9,654,752
	1923	33	2,901	4,521,949	3,829,574	12,945,263	9,115,689
	1921	21	1,395	2,202,307	2,407,395	6,641,988	4,234,593

For footnotes, see p. 1022.

SUMMARY FOR GROUP 14.—TRANSPORTATION EQUIPMENT, AIR, LAND, AND
WATER: 1921 TO 1931—Continued

INDUSTRY	Cen- sus year	Num- ber of estab- lish- ments	Wage earners (aver- age for the year)	Wages	Cost of ma- terials, con- tainers, fuel, and pur- chased elec- tric energy	Value of products	Value added by manu- facture ¹
Carriage, wagon, sleigh, and sled materials. ²	1929	45	681	\$564,635	\$1,481,988	\$2,792,228	\$1,310,240
	1927	44	764	664,515	1,554,554	3,040,948	1,456,394
	1925	81	1,389	1,215,794	2,658,631	5,117,616	2,458,985
	1923	109	1,983	1,590,599	4,004,395	7,313,148	3,308,753
	1921	141	2,747	2,555,236	6,134,955	10,787,177	4,652,222
Carriages and sleds, chil- dren's.	1931	59	4,159	4,479,403	7,090,608	16,769,379	9,678,771
	1929	79	7,102	8,313,356	13,514,787	28,817,890	15,303,673
	1927	89	7,030	7,813,648	13,895,086	28,668,145	14,773,059
	1925	86	6,926	7,923,304	13,553,184	30,173,501	16,620,317
	1923	100	8,324	8,850,198	15,935,678	34,172,976	18,237,598
	1921	89	5,460	5,577,906	9,517,303	21,716,839	12,199,536
Carriages, wagons, sleighs, and sleds. ³	1931	75	1,431	1,388,788	2,917,965	6,178,985	3,261,020
	1929	88	2,873	3,417,963	8,458,294	16,449,879	7,991,555
	1927	117	3,387	4,211,610	10,648,271	19,422,235	8,773,964
	1925	152	4,535	5,791,729	12,859,793	24,934,814	12,675,021
	1923	396	8,109	9,318,763	18,682,274	37,372,825	18,690,551
	1921	516	6,294	(4)	(5)	25,826,950	(6)
	1921	837	8,025	9,903,327	16,853,611	33,113,372	16,223,761
Cars, electric and steam railroad, not built in rail- road repair shops.	1931	152	18,785	25,553,290	59,753,809	99,657,122	39,993,253
	1929	147	40,015	63,387,382	223,889,397	328,220,204	104,330,807
	1927	135	38,031	60,624,856	209,112,561	312,508,598	103,396,037
	1925	141	50,393	77,240,992	266,053,504	390,771,210	124,717,706
	1923	139	80,590	129,178,010	413,060,102	604,350,341	190,690,239
	1921	118	48,033	70,944,834	211,938,355	340,536,225	128,597,870
Locomotives (other than electric), not made in railroad repair shops.	1931	16	5,443	5,589,610	14,870,591	22,118,636	7,248,045
	1929	16	11,045	17,994,078	52,808,092	83,858,258	31,600,166
	1927	17	12,961	17,648,206	45,688,450	76,719,403	31,039,653
	1925	18	12,809	18,218,843	41,717,142	65,389,134	23,671,992
	1923	19	30,672	51,866,976	124,261,528	215,392,951	91,131,423
	1921	22	16,583	20,472,715	55,411,656	102,023,363	46,611,792
Motorcycles, bicycles, and parts.	1931	19	3,294	3,563,016	5,519,773	13,696,758	8,176,985
	1929	21	4,392	6,203,876	11,281,327	23,894,805	12,613,478
	1927	29	3,897	5,441,802	10,174,092	21,454,149	11,280,057
	1925	36	4,193	5,662,397	12,176,935	24,257,923	12,080,988
	1923	39	6,576	8,010,021	18,002,907	32,259,205	14,256,298
	1921	46	4,308	4,981,295	10,322,811	23,097,749	12,774,938
Motor-vehicle bodies and motor-vehicle parts.	1931	940	150,649	193,770,459	516,945,484	945,406,758	428,461,274
	1929	1,154	221,332	366,503,355	856,985,637	1,537,929,793	680,944,156
	1927	1,213	181,489	291,290,908	641,306,562	1,151,426,365	510,119,803
	1925	1,358	228,382	372,720,933	862,721,451	1,623,279,923	660,558,472
	1923	2,120	163,530	253,147,058	504,107,225	1,013,112,410	449,005,185
	1921	1,974	69,119	96,779,079	218,964,817	408,016,532	194,051,715
Motor vehicles, not includ- ing motorcycles.	1931	178	134,866	156,755,887	1,044,405,902	1,567,526,262	523,120,360
	1929	244	226,116	366,579,233	2,401,511,763	3,722,793,274	1,321,281,511
	1927	264	187,910	321,664,093	1,889,426,249	2,848,442,843	959,016,594
	1925	297	197,728	341,210,401	2,108,161,812	3,198,122,633	1,089,930,821
	1923	351	241,356	406,730,278	2,147,463,352	3,163,327,874	1,015,864,522
	1921	385	143,658	221,973,586	1,107,062,085	1,671,386,976	564,324,891
Ship and boat building, steel and wooden, includ- ing repair work.	1931	518	45,262	62,028,150	72,321,989	186,993,411	114,671,422
	1929	624	55,089	88,274,153	85,848,690	231,300,165	145,451,475
	1927	559	55,014	87,081,444	78,626,391	211,127,067	132,500,676
	1925	565	50,224	74,275,019	66,298,964	177,181,960	110,882,998
	1923	567	62,287	90,719,525	84,557,075	213,232,382	128,674,707
	1921	640	106,445	155,943,490	169,368,426	400,834,105	231,465,680

¹ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.² Abandoned as a separate industry classification. Manufacturers of such materials as fellos, hubs, and spokes are now classified in "Wood Turned and Shaped and Other Wooden Goods, Not Elsewhere Classi-
fied," in Group 8; and manufacturers of other materials for carriages, wagons, etc., are assigned to "Car-
riages, Wagons, Sleighs, and Sleds."³ Now includes manufacture of certain classes of materials formerly classified separately. (See footnote 2.)
The figures for earlier years are not, therefore, strictly comparable with those for 1931.⁴ Repairing included for 1921. Figures in italics have been adjusted for comparison with those for later
years.⁵ Not available.

AIRCRAFT

[A preliminary report for this industry was issued under date of June 28, 1932]

Description of the industry.—The establishments in this industry are engaged primarily in the manufacture of complete aircraft or of aircraft parts other than engines and tires, or in the repair of aircraft. Establishments operated by the Federal Government are not canvassed. Establishments engaged primarily in the manufacture of aircraft engines for sale as such are classified in the "Engines, turbines, tractors, and water wheels" industry, and therefore no data for such establishments are included in this report. (The engines for which data are given in table 3 were made as secondary products by manufacturers of complete aircraft.)

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1914 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and 1914 but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. One of the "Other States," namely, Pennsylvania, is, however, more important in the industry than Michigan. No comparable data are available for years prior to 1914]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
<i>United States</i>						
1931.....	101	9,870	\$15,480,647	\$13,101,494	\$40,278,278	\$27,176,784
1929.....	132	14,710	21,923,844	27,368,103	71,152,924	43,784,821
1927.....	70	4,422	6,887,014	7,517,183	21,161,853	13,644,670
1925.....	44	2,701	4,222,151	2,869,967	12,524,719	9,654,752
1923.....	33	2,901	4,521,949	3,820,574	12,945,263	9,115,689
1921.....	21	1,395	2,202,307	2,407,395	6,641,988	4,234,593
1919.....	31	3,543	4,905,740	7,120,965	14,372,643	7,245,678
1914.....	16	168	134,827	133,939	789,872	655,933
Percent of increase or decrease (—):						
1929-31.....	-23.5	-32.9	-29.4	-52.1	-43.4	-37.9
1927-29.....	88.6	232.7	219.7	264.1	236.2	220.9
1925-27.....	(?)	63.7	62.4	161.9	66.0	41.3
1923-25.....	(?)	-6.9	-6.6	-25.1	-3.2	5.9
1921-23.....	(?)	108.0	105.3	50.1	94.9	115.3
1919-21.....	(?)	-60.6	-55.1	-66.2	-53.8	-41.6
1921-31.....	381.0	607.5	602.9	444.2	506.4	541.8
1919-29.....	(?)	315.2	346.8	284.0	395.1	504.3
<i>States, 1931</i>						
Connecticut.....	5	625	\$356,879	\$928,615	\$3,510,599	\$2,581,784
Kansas.....	8	185	247,359	228,300	557,270	328,970
Michigan.....	9	777	1,284,152	1,875,538	4,465,718	2,590,180
New Jersey.....	5	144	170,845	373,597	1,006,638	633,041
New York.....	19	2,161	3,408,671	2,844,653	7,977,713	5,133,060
Ohio.....	10	1,071	1,736,984	1,733,705	4,416,294	2,682,589
Other States ²	45	4,907	7,775,757	5,116,886	18,344,046	13,227,160

¹ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. IV.

² Not computed where base is less than 100.

³ California, 10 establishments; Colorado, 1; Delaware, 1; Florida, 1; Illinois, 4; Indiana, 1; Iowa, 2; Louisiana, 1; Maryland, 4; Massachusetts, 1; Missouri, 3; Nebraska, 1; Oklahoma, 2; Oregon, 1; Pennsylvania, 8; Texas, 1; Washington, 1; West Virginia, 1; Wisconsin, 1.

CENSUS OF MANUFACTURES: 1931

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, AND 1914, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931	0, 870	10, 176	10, 603	10, 938	10, 846	11, 388	11, 253	10, 427	9, 059	8, 959	8, 385	8, 156	8, 246
1929	14, 710	11, 128	12, 400	13, 592	15, 012	16, 101	17, 484	18, 381	18, 124	15, 870	14, 256	12, 480	11, 657
1925	2, 701	2, 203	2, 340	2, 486	2, 519	2, 715	2, 777	2, 841	3, 045	2, 923	2, 820	2, 811	2, 925
1919	3, 543	5, 493	4, 729	4, 161	3, 939	3, 397	3, 168	3, 109	2, 944	2, 840	2, 769	2, 971	2, 966
1914	168	162	157	152	147	151	144	154	154	180	194	211	210
<i>States, 1931</i>													
Connecticut	625	871	857	837	708	677	595	579	518	498	442	440	473
Kansas	185	215	270	276	240	225	200	196	144	111	125	115	89
Michigan	777	777	825	1, 013	1, 050	1, 118	1, 074	795	573	705	501	440	421
New Jersey	144	226	231	188	156	143	127	120	112	106	110	104	102
New York	2, 161	1, 777	1, 863	1, 990	1, 833	2, 088	2, 212	2, 287	2, 368	2, 364	2, 324	2, 358	2, 464
Ohio	1, 071	1, 047	1, 055	1, 121	1, 275	1, 278	1, 211	1, 249	801	933	932	936	926

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31

KIND	1931	1929	1927	1926 ¹	1925
1. The Aircraft industry, all products, total value	\$40, 278, 278	\$71, 152, 924	\$21, 161, 853	\$17, 670, 405	\$12, 524, 719
2. Aircraft, engines, ¹ parts, and experimental work	38, 266, 492	68, 850, 664	20, 124, 368	17, 521, 314	12, 375, 496
3. Other products (not normally belonging to the industry)	899, 190	1, 684, 523	663, 941	149, 091	149, 220
4. Receipts for repair work	1, 112, 596	617, 737	373, 524	(²)	(³)
5. Aircraft, parts, etc., made as secondary products in other industries	599, 231	865, 706	452, 535	24, 500	250, 462
6. Aircraft, parts, etc., all industries	\$39, 978, 319	\$70, 334, 107	\$20, 950, 447	\$17, 545, 814	\$12, 625, 961
Aggregate value (sum of 2, 4, and 5)					
Airplanes, total:					
Number	2, 382	6, 522	1, 888	1, 125	711
Value	\$17, 895, 871	\$46, 847, 691	\$12, 224, 979	\$7, 448, 679	\$5, 908, 335
Open-cockpit:					
Number	1, 769	4, 483			
Value	\$10, 622, 431	\$24, 643, 652			
Cabin, single-engine:					
1- to 3-place:					
Number	75				
Value	\$336, 340				
4-place and larger:					
Number	384	1, 350			
Value	\$5, 213, 210	\$9, 185, 791			
Cabin, multi-engine:					
Number	84	251			
Value	\$1, 534, 346	\$12, 240, 394			
Rebuilt and reassembled:					
Number	70	438			
Value	\$189, 544	\$777, 854			

Footnotes at end of table.

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31—Continued

KIND	1931	1929	1927	1926 ¹	1925
Aircraft, parts, etc., all industries—Con.					
Seaplanes and amphibians:					
Number.....	⁹ 120	⁹ 109	⁹ 107	⁹ 61	78
Value.....	\$4,509,327	\$4,660,429	\$2,280,020	\$1,422,348	\$765,324
Aircraft under construction at close of year:					
Number.....	(¹⁰)	(¹⁰)	(¹⁰)	508	259
Value of work done during year.....	(¹⁰)	(¹⁰)	(¹⁰)	\$2,377,709	\$1,428,447
Parachutes:					
Number.....	3,235	6,188			
Value.....	\$515,793	\$1,437,602			
Propellers, total:					
Number.....	4,227	14,964			
Value.....	\$502,248	\$2,090,834			
Metal:					
Number.....	1,883	(²)			
Value.....	\$433,158	(²)	\$1,407,929	\$242,045	\$728,970
Wood:					
Number.....	2,344	(²)			
Value.....	\$69,090	(²)			
Pontoons:					
Number.....	175	(²)			
Value.....	\$340,052	(²)			
Other aeronautical products, value.....	¹¹ \$2,759,541	¹² \$648,797			
Parts and engines ¹ , value.....	\$10,263,972	\$10,960,553	\$5,037,519	\$6,054,973	\$3,794,885
Experimental and repair work, value....	\$3,191,515	\$3,688,201	(²)	(²)	(²)

¹ Special census covering production. No data collected for wage earners, wages, or cost of materials.

² Only engines made by manufacturers of complete aircraft.

³ Not reported.

⁴ Parts only.

⁵ The value of aircraft made by establishments engaged primarily in manufacture of engines.

⁶ For 1931, includes data for 70 rebuilt and reassembled airplanes; for 1929, 438; for 1927, 103 rebuilt and reassembled airplanes and 37 without engines; for 1926, 171 rebuilt airplanes.

⁷ Value of engines included in some cases for years prior to 1931; schedule for 1931 called for value of aircraft excluding engines.

⁸ Includes data for 35 airplanes reported as "bombers."

⁹ Includes data for amphibians as follows: For 1931, 46; for 1929, 79; for 1927, 45; for 1926, 54.

¹⁰ Not called for on schedule.

¹¹ Value of work done on one large airship and value of balloons manufactured.

¹² Value of airships, balloons, kites, etc.

CARRIAGES AND SLEDS, CHILDREN'S

Because of the close relation and the amount of overlapping between this industry and the "Toys (Not Including Children's Wheel Goods or Sleds), Games, and Playground Equipment" industry, in Group 16, the reports for the two industries have been combined and are presented in the section for Group 16. (See pp. 1167 to 1172.)

CARRIAGES, WAGONS, SLEIGHS, AND SLEDS

[A preliminary report for this industry was issued under date of Nov. 17, 1932]

Description of the industry.—The primary products of establishments in this industry are complete horse-drawn vehicles (including sleighs and sleds) of all classes, handcars, pushcarts, wheelbarrows, and parts and materials for sale as such. At former censuses establishments engaged primarily in the manufacture of parts and materials were classified separately under the industry designation "Carriage, wagon, sleigh, and sled materials." Nine of these establishments are now classified in the "Carriages, wagons, sleighs, and sleds" industry. The combined value of products reported by these establishments amounted to \$237,809, or 3.8 percent of the total for the industry.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1923 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	75	1,431	\$1,388,788	\$2,917,965	\$8,178,985	\$3,261,020
1929.....	88	2,873	3,417,963	8,458,294	16,449,879	7,991,585
1927.....	117	3,387	4,211,610	10,648,271	19,422,235	8,773,964
1925.....	152	4,833	5,791,729	12,859,793	24,934,814	12,075,021
1923.....	396	8,109	9,318,763	18,682,274	37,372,826	18,690,551
Percent of increase or decrease (—):						
1929-31.....	-14.8	-50.2	-59.4	-65.5	-62.4	-59.2
1927-29.....	-24.8	-15.2	-18.8	-20.6	-15.3	-8.9
1925-27.....	-23.0	-29.9	-27.3	-17.2	-22.1	-27.3
1923-25.....	-61.6	-40.4	-37.8	-31.2	-33.3	-35.4
<i>States, 1931</i>						
Arkansas.....	3	12	\$8,377	\$11,302	\$34,938	\$23,636
Illinois.....	6	447	428,586	934,471	1,813,116	878,645
Indiana.....	6	119	121,236	193,845	410,657	216,812
Iowa.....	4	21	19,571	57,681	104,947	47,266
Minnesota.....	4	88	87,183	153,934	370,857	217,023
New Jersey.....	3	74	148,190	306,661	780,953	474,292
New York.....	9	40	46,566	96,779	216,847	120,068
North Carolina.....	3	32	24,155	53,298	144,831	91,533
Ohio.....	3	45	53,508	98,604	205,983	107,379
Pennsylvania.....	8	179	123,674	293,210	566,847	273,637
Tennessee.....	3	32	24,446	55,616	94,260	38,744
Other States ⁴	23	342	303,296	662,664	1,434,649	771,985

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ No comparable figures can be given for years prior to 1923.

⁴ Alabama, 1 establishment; Georgia, 2; Kentucky, 3; Louisiana, 2; Maryland, 1; Massachusetts, 2; Michigan, 1; Mississippi, 1; Missouri, 4; Virginia, 3; Wisconsin, 3.

CENSUS OF MANUFACTURES: 1931

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, AND 1925, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931.....	1,431	1,664	1,717	1,754	1,722	1,556	1,479	1,386	1,287	1,149	1,164	1,140	1,140
1929.....	2,873	2,744	2,826	2,834	2,866	2,882	2,875	2,976	3,019	3,009	2,940	2,819	2,690
1925.....	4,833	4,380	4,618	4,718	4,782	4,637	4,642	4,763	5,159	5,281	5,219	5,053	4,765
<i>States, 1931</i>													
Arkansas.....	12	15	13	13	13	12	11	14	11	11	10	9	9
Illinois.....	447	557	586	580	567	431	520	466	399	295	316	317	329
Indiana.....	119	141	130	136	131	122	112	110	111	106	117	112	100
Iowa.....	21	28	23	27	25	22	23	21	16	16	17	14	20
Minnesota.....	88	137	123	130	110	103	88	74	82	61	59	57	47
New Jersey.....	74	86	86	78	76	84	85	74	67	62	63	58	65
New York.....	40	35	33	38	50	51	53	50	43	42	29	30	28
North Carolina.....	32	33	38	32	27	38	30	32	35	29	32	33	35
Ohio.....	45	61	53	48	50	47	48	50	34	33	26	38	46
Pennsylvania.....	179	183	201	212	211	205	175	161	152	170	165	185	143
Tennessee.....	32	32	33	33	32	31	31	31	31	31	31	32	32

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9]

KIND	1931	1929	1927	1925
1. Carriages, Wagons, Sleighs, and Sleds industry, all products, total value	\$6, 178, 985	\$16, 440, 879	\$19, 422, 235	\$24, 934, 814
2. Carriages, wagons, sleighs, sleds, and wheelbarrows	2, 980, 894	11, 043, 594	12, 187, 919	19, 165, 634
3. Parts	1, 508, 501	3, 356, 734	3, 660, 646	2, 962, 980
4. Receipts for repair work	268, 612	455, 466		
5. Other products (not normally belonging to the industry)	1, 411, 948	1, 594, 085	3, 567, 670	2, 806, 200
6. Carriages, wagons, sleighs, sleds, and wheelbarrows made as secondary products in other industries, value	1, 237, 218	3, 580, 656	3, 225, 432	4, 648, 419
Carriages, wagons, sleighs, sleds, and wheelbarrows, all industries:				
Aggregate value (sum of 2 and 6)	4, 227, 082	14, 633, 250	15, 413, 351	23, 814, 053
Horse-drawn vehicles, total:				
Number reported:				
Number	30, 379	116, 489	129, 694	223, 457
Value	\$2, 629, 714	\$10, 373, 797	\$11, 963, 454	\$20, 310, 296
Number not reported, value	\$280, 806	\$430, 689		
Farm wagons:				
Number	10, 316	40, 687	50, 810	171, 783
Value	\$754, 742	\$3, 789, 496	\$4, 427, 309	
Farm trucks:				
Number	16, 043	60, 969	48, 278	\$13, 114, 435
Value	\$623, 284	\$2, 518, 180	\$1, 926, 431	
Business wagons, including mail carriers' wagons, lunch wagons, and public conveyances ¹ :				
Number reported:				
Number	940	4, 122	13, 192	24, 245
Value	\$1, 111, 784	\$3, 465, 133	\$4, 592, 634	\$4, 960, 025
Number not reported, value	\$280, 806	\$413, 949		
Carriages, buggies, and sulkies:				
Number	711	3, 597	7, 633	21, 545
Value	\$68, 233	\$346, 661	\$687, 399	\$1, 981, 276
2-wheeled carts:				
Number	1, 712	3, 322	4, 310	3, 204
Value	\$52, 982	\$145, 033	\$146, 933	\$165, 368
Sleighs and sleds (including bob-sleds):				
Number reported:				
Number	657	3, 792	5, 471	2, 680
Value	\$18, 689	\$109, 294	\$182, 743	\$89, 192
Number not reported, value		\$16, 740		
Wheelbarrows, value	\$1, 243, 460	\$3, 560, 367	3, 314, 588	\$3, 382, 721
Handcarts and pushcarts:				
Number	5, 473	14, 132	9, 640	12, 651
Value	\$73, 102	\$268, 397	\$135, 309	\$121, 036

¹Combined to avoid disclosing approximations of data for individual establishments.

CARS, ELECTRIC AND STEAM RAILROAD, NOT BUILT IN RAILROAD REPAIR SHOPS

[A preliminary report for this industry was issued under date of Nov. 17, 1932]

Description of the industry.—This industry consists in the building, rebuilding, and repair of railroad cars by establishments engaged primarily in such work, not including railroad repair shops.

Detailed statistics of products.—The numbers and values of the several classes and types of cars built are shown in tables 3, 4, and 5. Table 5 relates only to the industry proper, but the figures in tables 3 and 4 include also data for cars built in railroad repair shops and by establishments in other industries.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
<i>United States</i>						
1931.....	152	18, 785	\$25, 553, 260	\$59, 753, 869	\$99, 657, 122	\$39, 903, 253
1929.....	147	40, 015	63, 387, 382	223, 889, 397	328, 220, 204	104, 330, 807
1927.....	135	38, 031	60, 624, 856	209, 112, 561	312, 508, 598	103, 396, 037
1925.....	141	50, 393	77, 240, 992	286, 053, 504	390, 771, 210	124, 717, 706
1923.....	139	80, 590	129, 178, 010	413, 660, 102	604, 350, 341	196, 690, 239
1921.....	118	48, 033	70, 944, 834	211, 938, 355	340, 536, 225	128, 597, 870
1919.....	106	55, 218	82, 410, 737	368, 143, 487	556, 064, 807	188, 521, 320
1914.....	117	58, 128	43, 800, 606	138, 549, 938	205, 270, 622	66, 720, 684
1909.....	124	46, 069	29, 312, 171	83, 013, 331	131, 539, 493	48, 626, 162
1904.....	87	38, 788	23, 087, 400	80, 998, 570	122, 019, 506	41, 020, 936
1899.....	85	37, 038	18, 938, 170	65, 709, 610	97, 815, 548	32, 105, 938
Percent of increase or decrease (—):						
1929-31.....	3.4	-53.1	-59.7	-73.3	-69.6	-61.8
1927-29.....	8.9	5.2	4.6	7.1	5.0	.9
1925-27.....	-4.3	-24.5	-21.5	-21.4	-20.0	-17.1
1923-25.....	1.4	-37.5	-40.2	-35.7	-35.3	-34.6
1921-23.....	17.8	67.8	82.1	95.2	77.5	48.3
1919-21.....	11.3	-13.0	-13.9	-42.4	-38.8	-31.8
1921-31.....	28.8	-60.9	-64.0	-71.8	-70.7	-69.0
1919-29.....	38.7	-27.5	-23.1	-39.2	-41.0	-44.7
1909-19.....	-14.5	18.3	181.2	343.5	233.2	288.5
1899-1909.....	(²)	26.0	54.8	26.3	34.5	51.1
<i>States, 1931</i>						
Delaware.....	3	804	\$1, 246, 954	\$1, 572, 091	\$3, 459, 967	\$1, 887, 876
Illinois.....	26	3, 843	5, 300, 019	9, 498, 972	18, 072, 287	8, 573, 315
Indiana.....	9	2, 183	2, 904, 134	10, 657, 347	16, 715, 085	6, 057, 738
Kansas.....	8	308	419, 975	809, 184	1, 294, 542	485, 358
Louisiana.....	4	116	132, 950	137, 469	284, 971	147, 502
Minnesota.....	6	350	443, 430	1, 089, 906	1, 857, 477	787, 571
Missouri.....	12	1, 345	1, 748, 649	3, 136, 424	5, 837, 790	2, 701, 366
Nebraska.....	3	156	165, 844	289, 967	568, 898	278, 931
New Jersey.....	4	181	269, 574	836, 109	1, 467, 104	630, 095
New York.....	8	2, 270	3, 327, 269	6, 443, 716	10, 277, 941	3, 834, 225
Ohio.....	8	228	245, 254	816, 956	1, 312, 246	495, 290
Pennsylvania.....	13	2, 949	3, 210, 330	12, 223, 850	18, 785, 394	6, 561, 814
Texas.....	5	60	70, 033	80, 224	180, 395	100, 171
Wisconsin.....	4	248	379, 969	316, 022	704, 089	388, 067
Other States ³	39	3, 744	5, 638, 876	11, 805, 902	18, 838, 936	6, 973, 034

¹ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

² Percent not computed where base is less than 100.

³ Alabama, 1 establishment; California, 5; Colorado, 1; Florida, 1; Georgia, 3; Idaho, 1; Iowa, 4; Maryland, 2; Massachusetts, 2; Michigan, 1; Oklahoma, 3; Oregon, 1; Rhode Island, 1; South Carolina, 1; Tennessee, 2; Virginia, 4; Washington, 4; West Virginia, 1; Wyoming, 1.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931	18,785	22,155	21,322	21,069	20,752	18,602	19,260	17,657	17,766	17,877	16,648	16,260	16,022
1929	40,015	30,373	34,083	37,675	40,749	42,810	42,099	41,796	42,184	42,225	41,367	41,653	43,167
1925	50,393	58,886	58,975	58,783	57,757	53,874	52,419	46,238	45,519	44,015	41,757	41,548	44,941
1919	55,218	68,939	64,785	59,622	58,283	56,890	54,225	52,849	51,371	49,325	47,855	47,938	50,544
1914	58,128	68,432	60,259	59,248	51,994	54,280	57,107	60,940	62,598	60,041	58,393	53,298	54,056
1909	46,669	46,331	43,923	41,705	42,074	38,809	43,010	41,975	40,963	48,683	51,863	59,024	62,185
<i>States, 1931</i>													
Delaware	804	1,102	1,107	1,205	1,245	1,011	862	498	487	416	546	565	607
Illinois	3,843	3,920	4,273	4,216	4,745	3,974	3,708	3,715	3,689	3,628	3,874	3,420	3,457
Indiana	2,183	2,469	2,185	2,496	2,232	1,450	1,683	2,178	2,655	2,705	1,998	2,162	1,956
Kansas	308	411	384	297	278	238	295	310	292	290	283	282	262
Louisiana	116	125	126	125	127	120	110	118	111	109	113	109	104
Minnesota	350	348	297	317	300	298	298	363	354	449	485	436	257
Missouri	1,345	1,589	1,602	1,602	1,446	1,376	1,371	1,150	1,100	1,128	1,115	1,388	1,370
Nebraska	156	124	123	118	120	140	149	148	141	188	205	204	212
New Jersey	181	179	162	198	141	191	284	158	204	174	208	142	170
New York	2,270	2,581	2,317	2,316	2,168	2,427	2,688	2,363	2,361	2,238	2,054	1,764	1,966
Ohio	228	159	207	150	186	202	268	177	279	273	264	304	267
Pennsylvania	2,949	4,273	3,919	3,447	2,999	2,788	3,584	2,711	2,459	2,815	2,498	1,884	2,103
Texas	60	68	58	65	58	63	65	58	58	57	58	55	55
Wisconsin	248	232	242	248	254	252	252	255	254	232	248	249	255

TABLE 3.—CARS BUILT IN ALL INDUSTRIES, BY SERVICE, KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931

[The differences between the items in this table and the corresponding ones in table 5 are due to the inclusion in this table and the exclusion from table 5 of data for cars built by establishments classified in other industries]

CLASS	1931	1929	1927	1925
1. "Cars, electric and steam railroad, not built in railroad repair shops" industry, all products, total value	\$99,657,122	\$328,220,204	\$312,508,598	\$390,771,210
2. Cars and parts	57,377,356	225,443,597	205,144,809	266,629,968
3. Receipts for repair work	37,937,122	97,267,618	101,523,496	110,368,584
4. Products not normally belonging to the industry	4,342,644	5,508,989	5,840,293	13,772,358
5. Secondary production in other industries—cars, parts, and receipts for repair work	5,819,110	24,684,482	25,602,140	9,383,900
Car building and repair work, all industries: Aggregate value (sum of 2, 3, and 5)	101,133,588	347,395,697	332,270,445	386,382,752
Cars, total value	48,840,687	249,678,748	228,752,971	274,618,406
Steam-railroad cars:				
Total number	15,204	87,608	71,036	100,230
Total value	\$40,576,403	\$235,585,366	\$206,987,378	\$254,560,114
Passenger-service:				
Total number	193	1,365	1,201	1,216
Total value	\$5,566,296	\$35,009,127	\$53,410,482	\$55,232,760

For footnotes, see end of table.

TABLE 3.—CARS BUILT IN ALL INDUSTRIES, BY SERVICE, KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925 TO 1931—Continued

[See note at head of table]

CLASS	1931	1929	1927	1925
Car building and repair work—Continued.				
Cars—Continued.				
Steam-railroad cars—Continued.				
Passenger-service—Continued.				
Day coaches:				
Number.....		342	967	532
Value.....	115	\$6,816,793	\$22,620,966	\$11,990,777
Baggage and express:				
Number.....	2 \$3,086,309	369	265	349
Value.....		\$6,475,763	\$5,202,315	\$5,676,023
Chair, parlor, dining and buffet, mail, and sleeping:				
Number.....		521	545	1,088
Value.....	78	\$18,310,096	\$19,154,139	\$34,140,172
Other and undistributed:				
Number.....	2 \$2,479,987	133	1 244	1 167
Value.....		\$3,406,475	\$6,433,062	\$3,419,788
Freight service:				
Total number.....	15,011	86,243	69,015	98,094
Total value.....	\$35,010,107	\$200,576,239	\$153,576,896	\$199,327,354
Box:				
Number.....	3,038	34,168	19,645	49,230
Value.....	\$6,345,690	\$80,988,587	\$45,318,843	\$101,023,555
Caboose:				
Number.....		458	186	242
Value.....	473	\$1,357,416	\$717,132	\$690,775
Flat:				
Number.....	2 \$1,816,730	2,845	1,656	2,306
Value.....		\$5,150,169	\$2,837,703	\$3,225,184
Gondola:				
Number.....	876	12,644	10,479	21,402
Value.....	\$1,514,051	\$29,400,947	\$20,023,065	\$42,002,090
Hopper:				
Number.....	2,676	10,132	8,734	3,243
Value.....	\$5,073,866	\$24,681,998	\$19,917,003	\$5,869,778
Refrigerator:				
Number.....	3,328	5,165	9,004	4,704
Value.....	\$9,972,649	\$20,031,239	\$25,633,161	\$14,740,724
Stock:				
Number.....		2,460	1,016	3,310
Value.....		\$4,743,412	\$1,881,862	\$5,876,501
Tank:				
Number.....	4,620	3,290	5,455	5,396
Value.....	2 \$9,387,121	\$6,139,817	\$10,448,662	\$10,701,728
Other and undistributed:				
Number.....		15,072	12,840	8,261
Value.....		\$28,082,654	\$28,798,865	\$15,196,719
Electric-railroad cars:				
Total number.....	368	1 551	1 1,393	1,887
Total value.....	\$7,158,812	\$6,615,793	\$20,671,705	\$20,068,292
Not reported by service, kind, or number, value.....				
Self-propelled:		\$611,994	\$1,093,888	
Number.....	(¹)	146		
Value.....	\$1,105,472	\$6,865,695		
Other products, including car parts, value.....	\$14,290,462			
Receipts for repair work.....	\$38,002,439	\$97,716,949	\$103,517,474	\$111,764,346

¹ Figures include data for gasoline and gasoline-electric motor cars for use by steam railroads, as follows: For 1927, 141; for 1925, 131.

² Combined to avoid disclosing, exactly or approximately, the production reported by individual establishments.

³ Figures include data for gasoline-electric motor cars for electric railroads, as follows: For 1929, 6; for 1927, 51.

⁴ Not called for on schedule.

TABLE 4.—CARS BUILT IN ALL INDUSTRIES, BY KIND, TYPE OF CONSTRUCTION, NUMBER, AND VALUE, FOR THE UNITED STATES: 1927 TO 1931

[The differences between the items in this table and the corresponding ones in table 5 are due to the inclusion in this table and the exclusion from table 5 of data for cars built by establishments classified in other industries]

KIND	Census year	NUMBER					Value
		Total	All wood	Steel under-frame	Steel body with wood interior	All steel	
Aggregate ¹	1931	16,572	21	8,105	1,622	5,824	\$48,840,687
	1929	88,305	155	35,737	14,272	38,141	249,678,748
	1927	72,429	351	35,157	6,999	29,922	228,752,971
Steam-railroad cars, total.....	1931	15,204	21	8,105	1,548	5,530	40,576,403
	1929	² 87,608	114	35,737	² 13,901	² 37,856	² 235,585,366
	1927	71,036	328	35,070	6,511	29,127	206,987,378
Passenger service (including baggage, express, and mail).....	1931	193	-----	-----	16	177	5,566,296
	1929	² 1,365	-----	86	² 6	² 1,273	² 35,009,127
	1927	² 2,021	-----	² 27	360	1,634	² 53,410,482
Freight service.....	1931	15,011	21	8,105	1,532	5,358	35,010,107
	1929	86,243	114	35,651	13,895	36,583	200,576,239
	1927	² 69,015	328	² 35,043	6,151	27,493	² 153,576,896
Electric-railroad cars, total.....	1931	368	-----	-----	74	294	7,158,812
	1929	551	41	-----	337	173	6,615,793
	1927	1,393	23	87	488	795	20,671,705
Self-propelled cars.....	1931	(³)	(³)	(³)	(³)	(³)	1,105,472
	1929	146	-----	-----	34	112	6,865,595
Cars not reported by class or by number.....	1931	-----	-----	-----	-----	-----	-----
	1929	(³)	(³)	(³)	(³)	(³)	⁴ 611,994
	1927	(³)	(³)	(³)	(³)	(³)	⁴ 1,093,888

¹ Figures include data for cars built by establishments in other industries, chiefly steam- and electric-railroad repair shops, as follows: For 1931, 2,877 cars, valued at \$5,753,793; for 1929, 12,753 cars, \$23,623,187; for 1927, 10,663 cars, \$22,514,274.

² Revised.

³ Data incomplete.

⁴ Value of cars built by establishments not engaged primarily in car building or in railroad-repair-shop work.

TABLE 5.—CARS BUILT IN THE INDUSTRY, BY KIND, TYPE OF CONSTRUCTION, NUMBER, AND VALUE, FOR THE UNITED STATES: 1931

[See headnote, table 4]

KIND	Census year	NUMBER					Value
		Total	All-wood	Steel under-frame	Steel body with wood interior	All-steel	
Aggregate.....	1931	12,695	20	6,430	1,097	5,148	\$43,086,894
	1929	75,552	112	31,294	14,237	29,909	225,443,597
	1927	61,766	21	28,336	6,418	26,991	205,144,809
Steam-railroad cars, total.....	1931	12,362	20	6,430	1,047	4,865	35,014,381
Passenger service, total.....	1931	192	—	—	16	176	5,560,744
Day coaches and baggage and express.....	1931	115	—	—	10	105	3,086,309
Chair, parlor, dining and buffet, mail, sleeping, and other passenger service.....	1931	77	—	—	6	71	2,474,455
Freight service, total.....	1931	12,170	20	6,430	1,031	4,680	29,453,637
Box.....	1931	3,038	—	1,650	—	360	6,345,690
Caboose and flat.....	1931	473	—	137	1,028	336	1,816,730
Gondola.....	1931	876	—	2	—	874	1,514,051
Hopper.....	1931	2,676	—	—	—	2,676	5,673,866
Refrigerator.....	1931	3,328	—	3,325	3	—	9,972,040
Stock, tank, and other freight service.....	1931	1,770	20	1,316	—	443	3,830,651
Electric-railroad cars.....	1931	333	—	—	50	283	6,967,041
Self-propelled cars.....	1931	(¹)	(¹)	(¹)	(¹)	(¹)	1,105,472

¹ No data.

LOCOMOTIVES (OTHER THAN ELECTRIC)

Description of the industry.—The establishments classified in the locomotive industry are those engaged exclusively or chiefly in the manufacture of steam and internal-combustion locomotives. Steam locomotives are also manufactured to some extent by steam-railroad repair shops.

This industry does not include the manufacture of electric locomotives, which are treated as products of the "Electrical Machinery, Apparatus, and Supplies" industry.

Omission of State statistics.—In order to avoid disclosing, exactly or approximately, the data reported by individual establishments, no State statistics are given for this industry.

TABLE 1.—SUMMARY: 1904 TO 1931

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
<i>United States</i>						
1931	16	5,443	\$5,589,610	\$14,870,591	\$22,118,636	\$7,248,046
1929	16	11,045	17,994,078	52,808,092	83,858,253	31,050,166
1927	17	12,961	17,648,206	45,688,450	76,719,403	31,030,963
1925	18	12,509	18,218,843	41,717,142	65,359,134	23,671,992
1923	19	30,672	51,866,976	124,261,528	215,392,961	91,131,423
1921	22	16,583	20,472,715	55,411,656	102,023,358	46,611,702
1919	17	26,715	38,798,641	72,375,950	156,269,730	83,893,780
1914	19	17,391	11,085,375	23,546,118	43,374,141	19,828,023
1909	16	14,909	8,914,266	15,059,983	31,582,302	16,522,319
1904	15	24,806	15,798,432	27,702,930	59,552,092	31,849,162
Percent of increase or decrease (—):						
1929-31	()	—50.7	—68.9	—71.8	—73.6	—76.7
1927-29	()	—14.8	2.0	15.6	9.3	.1
1925-27	()	1.2	—3.1	9.5	17.3	31.1
1923-25	()	—58.2	—64.9	—66.4	—69.6	—74.0
1921-23	()	85.0	153.3	124.3	111.1	95.6
1919-21	()	—37.9	—47.2	—23.4	—34.7	—44.4
1921-31	()	—67.2	—72.7	—73.2	—78.3	—84.5
1919-29	()	—58.7	—53.6	—27.0	—46.3	—63.0
1909-19	()	79.2	335.2	350.6	394.8	407.8

¹ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. II.

² Alabama, 2 establishments; Georgia, 1; Illinois, 1; Iowa, 1; New York, 2; Ohio, 2; Pennsylvania, 6; Virginia, 1.

³ No comparable figures for earlier years.

⁴ Percent not computed where base is less than 100.

TABLE 2.—WAGE EARNERS, BY MONTHS, 1931, 1929, 1925, 1919, 1914, AND 1909
[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931.....	5,443	6,397	6,334	6,603	6,149	5,822	5,691	5,592	5,355	4,962	4,456	4,051	3,875
1929.....	11,045	8,039	8,561	9,030	11,378	12,122	12,218	12,749	12,291	11,662	11,538	11,241	11,015
1925.....	12,809	13,659	13,920	13,774	13,408	12,345	12,103	12,965	12,138	11,338	11,688	12,810	13,502
1919.....	26,715	35,659	32,843	32,031	29,657	23,094	26,011	25,707	26,322	23,778	20,376	20,255	19,837
1914.....	17,391	22,364	22,202	21,814	19,009	18,839	17,482	16,102	15,760	15,272	13,576	12,536	13,047
1909.....	14,909	13,211	13,526	13,471	13,418	13,045	13,537	15,566	15,349	15,763	16,677	17,116	18,232

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1931 AND 1929

CLASS	1931	1929
1. Locomotive industry, all products, total value.....	\$22, 118, 636	\$83, 858, 258
2. Locomotives (other than electric) and parts.....	13, 763, 130	70, 961, 472
3. Other products (not normally belonging to the industry) ¹	6, 349, 851	8, 804, 901
4. Receipts for contract and repair work.....	2, 005, 655	4, 091, 826
5. Locomotives and parts made as secondary products by establishments in other industries (chiefly steam-railroad repair shops).....	1, 539, 958	3, 292, 700
Locomotives (other than electric) and parts, all industries: Total value (sum of 2 and 5).....	15, 303, 088	74, 254, 181
Steam, standard-gauge: Number.....	147	802
Value.....	\$11, 460, 782	\$61, 543, 933
Steam, mining, and industrial: Number.....	32	103
Value.....	\$888, 049	\$1, 261, 124
Internal-combustion, standard-gauge and mining, and industrial: ² Number.....	(³)	700
Value.....	\$724, 112	\$2, 398, 252
Parts for steam, internal-combustion, and electric locomotives, value ⁴	\$2, 230, 145	\$9, 050, 822

¹ Clay machinery; heating, refrigerating, and oil-refining equipment; gray-iron castings; power shovels and cranes; riser valves; road machines, and hardware specialties.
² Combined to avoid disclosing approximations of the data reported by individual establishments.
³ Data incomplete.
⁴ Data for values of parts for the several types of locomotives were not called for separately on the schedule. The value of parts for electric locomotives included in this item represents only such parts made by establishments engaged primarily in the manufacture of steam and internal-combustion locomotives. Electric locomotives are treated for census purposes as products of the Electrical Machinery, Apparatus, and Supplies industry, and therefore most of the parts for such locomotives are made by establishments classified in that industry.

MOTORCYCLES, BICYCLES, AND PARTS

[A preliminary report for this industry was issued under date of June 25, 1932]

Description of the industry.—The establishments in this industry are engaged primarily in manufacturing or in assembling complete motorcycles and bicycles, or in manufacturing parts and accessories other than engines, tires, lamps, and electrical supplies.¹ The total value of products for the industry thus includes duplication to the extent to which the products of establishments engaged primarily in the manufacture of parts and accessories are used as materials by establishments manufacturing complete machines. Many of the parts and accessories are, however, sold to dealers or to consumers for use as additional equipment or for replacement.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. One of the "Other States," namely Wisconsin, is, however, more important in the industry than either of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	19	3,294	\$3,563,016	\$5,519,773	\$13,696,758	\$8,176,985
1929.....	21	4,392	6,263,876	11,281,327	23,894,805	12,618,478
1927.....	29	3,897	5,441,502	10,174,092	21,454,149	11,280,057
1925.....	36	4,193	5,662,397	12,176,935	24,257,923	12,080,988
1923.....	39	6,576	8,010,021	18,002,907	32,259,203	14,256,298
1921.....	46	4,308	4,981,295	10,322,811	23,097,749	12,774,838
1919.....	51	10,836	12,763,235	25,985,915	53,105,895	27,119,980
1914.....	78	6,680	4,738,750	10,927,654	22,234,262	11,806,608
1909.....	95	4,437	2,908,199	5,082,599	10,698,567	5,615,998
1904.....	101	3,319	1,971,403	2,628,146	5,153,240	2,625,094
1899.....	312	17,525	8,189,817	16,792,051	31,915,908	15,123,857
Percent of increase or decrease (—):						
1929-31.....	(9)	-25.0	-43.1	-51.1	-42.7	-35.2
1927-29.....	(9)	12.7	15.1	10.9	11.4	11.8
1925-27.....	(9)	-7.1	-3.9	-16.4	-11.6	-6.6
1923-25.....	(2)	-36.2	-29.3	-32.4	-24.8	-15.3
1921-23.....	(1)	52.6	60.8	74.4	39.7	11.6
1919-21.....	(1)	-60.4	-61.0	-60.3	-56.5	-52.9
1921-31.....	(2)	-23.5	-28.5	-46.5	-40.7	-36.0
1919-29.....	(2)	-50.7	-50.9	-59.6	-55.0	-53.5
1909-19.....	(1)	145.3	338.9	411.3	396.4	382.9
1899-1909.....	-69.6	-74.7	-64.5	-69.7	-66.5	-62.9
<i>States, 1931</i>						
Massachusetts.....	4	908	\$1,013,089	\$2,039,858	\$3,944,167	\$1,904,300
New York.....	4	326	390,599	773,377	1,564,704	791,327
Other States ⁴	11	2,060	2,159,328	2,709,538	5,187,887	5,451,349

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 19.

² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ Not computed where base is less than 100.

⁴ Connecticut, 1 establishment; Illinois, 2; Indiana, 1; Kentucky, 1; Michigan, 2; Ohio, 2; Wisconsin, 2.

⁵ Engines, tires, lamps (other than electric), and electrical equipment (including electric lamps) made by establishments engaged primarily in the manufacture of these commodities are included as products of the "Engines, Turbines, Tractors, Water Wheel and Windmills", "Rubber Tires and Inner Tubes", "Lighting Equipment", and "Electrical Machinery, Apparatus, and Supplies" industries, respectively.

CENSUS OF MANUFACTURES: 1931

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

	Average num- ber em- ployed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>United States</i>													
1931-----	3,294	<i>2,964</i>	3,250	3,438	3,518	3,358	3,272	3,323	3,242	3,235	3,349	3,330	3,241
1929-----	4,392	4,295	4,364	4,521	4,551	4,588	4,446	4,285	4,267	4,369	4,398	4,877	<i>4,241</i>
1925-----	4,193	4,092	4,220	4,358	4,414	4,159	3,866	<i>3,637</i>	3,813	3,991	4,471	4,641	4,659
1919-----	10,886	11,258	<i>10,166</i>	10,550	10,903	10,952	10,777	10,628	10,630	10,616	11,008	11,491	11,688
1914-----	6,680	8,843	8,177	8,840	8,390	7,872	6,270	5,351	4,792	<i>4,333</i>	4,608	5,360	6,414
1909-----	4,437	<i>3,991</i>	4,134	4,428	4,638	4,868	4,998	4,318	4,223	4,214	4,245	4,405	4,738
<i>States, 1931</i>													
Massachusetts-----	908	<i>783</i>	832	903	981	905	851	895	849	869	987	1,018	1,023
New York-----	326	<i>192</i>	289	313	338	327	346	355	365	360	391	378	253

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9]

KIND	1931	1929	1927	1925
1. Motorcycle and Bicycle industry, all products, total value	\$13,696,758	\$23,894,805	\$21,454,149	\$24,257,923
2. Motorcycles, side cars, bicycles, and parts	11,934,228	19,280,319	18,842,616	22,439,559
3. Other products (not normally belonging to the industry), value	1,607,956	4,321,889	2,337,136	1,818,364
4. Receipts for repair work	154,574	292,597	274,397	
5. Motorcycles, bicycles, and parts made as secondary products in other industries, value	1,351,123	1,917,930	559,283	1,061,185
Motorcycles, side cars, bicycles, and parts, all industries				
Total value (sum of 2 and 5)	13,285,351	21,198,249	19,401,899	23,500,744
Motorcycles, side cars, and motorcycle parts, value ¹	\$5,875,035	\$10,735,511	\$11,392,408	\$12,645,188
Bicycles:				
Number	260,029	307,845	255,456	303,446
Value	\$4,733,254	\$6,183,773	\$5,803,440	\$7,030,560
Bicycle parts, value	\$2,677,062	\$4,278,965	\$2,206,051	\$3,824,960

¹ Combined to avoid disclosing data for individual establishments.

MOTOR VEHICLES; MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS

The manufacture of motor vehicles and the manufacture of bodies and parts for such vehicles are treated for census purposes as separate industries. Combined statistics for these industries are presented in the table below.

Duplication in cost of materials and value of products.—The combined statistics for cost of materials and for value of products include a great deal of duplication due to the fact that in large measure the products of the Motor-Vehicle Bodies and Motor-Vehicle Parts industry are used as materials in the Motor Vehicles industry, so that the combined cost of materials greatly exceeds the cost of raw and partly manufactured materials produced outside the industries, and the combined value of products is much in excess of the total factory value of the finished products in the form in which they reach the final purchasers.

On the other hand, as explained elsewhere (see p. 1048), the bodies and parts industry does not include the manufacture of tires, engines, and certain other parts and materials, and for this reason the statistics in the table below do not show the total number of persons employed, directly and indirectly, in the manufacture of motor vehicles.

COMBINED SUMMARY FOR MOTOR VEHICLES AND MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS INDUSTRIES, FOR THE UNITED STATES: 1904 TO 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931	1, 118	285, 515	\$350, 526, 346	\$1, 561, 351, 386	\$2, 512, 933, 020	\$951, 581, 634
1929	1, 398	447, 448	733, 082, 618	3, 258, 497, 400	5, 260, 723, 067	2, 602, 225, 667
1927	1, 477	369, 399	612, 955, 061	2, 530, 732, 811	3, 999, 869, 208	1, 469, 136, 397
1925	1, 655	426, 110	713, 931, 334	2, 970, 913, 293	4, 721, 402, 556	1, 750, 489, 293
1923	2, 471	404, 886	659, 877, 336	2, 711, 570, 577	4, 176, 440, 284	1, 464, 869, 707
1921	2, 359	212, 777	318, 752, 665	1, 321, 026, 902	2, 079, 403, 508	758, 370, 606
1919	2, 830	343, 115	491, 121, 373	1, 940, 678, 876	3, 080, 073, 979	1, 139, 395, 103
1914	1, 271	127, 092	101, 926, 874	356, 207, 930	632, 831, 474	276, 623, 544
1909	743	75, 721	48, 693, 867	131, 645, 736	249, 202, 075	117, 556, 339
1904 ³	178	12, 049	7, 158, 968	13, 151, 865	30, 033, 538	16, 882, 171
Percent of increase or decrease						
(-):						
1929-31	-20.0	-36.2	-52.2	-52.1	-52.2	-52.5
1927-29	-5.3	21.1	19.6	28.8	31.5	38.3
1925-27	-10.8	-13.3	-14.1	-14.8	-15.3	-16.1
1923-25	-33.0	5.2	8.2	9.6	13.0	19.5
1921-23	4.7	90.3	107.0	105.3	100.8	93.2
1919-21	-16.6	-38.0	-35.1	-31.9	-32.5	-33.4
1921-31	-52.6	34.2	10.0	18.2	20.8	25.5
1919-29	-50.6	30.4	49.3	67.9	70.8	75.7
1909-19	280.9	353.1	908.6	1, 374.2	1, 136.0	869.2

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

² Value of products less cost of materials, containers, fuel, and purchased electric energy. See sec. 20, p.

11. ³ No data for "Motor-vehicle bodies and motor-vehicle parts" were collected for 1899.

MOTOR VEHICLES

[A preliminary report for this industry was issued under date of Aug. 1, 1932]

Description of the industry.—The classification Motor Vehicles applies to all manufacturing establishments whose principal products are 4-wheeled or 6-wheeled motor-propelled (internal-combustion or electric) steerable vehicles, except industrial trucks. Establishments engaged primarily in the manufacture of motor-propelled fire-department apparatus, street sweepers, road oilers, etc., are also classified in this industry. (Manufacturers of motorcycles are classified in the Motorcycles, Bicycles, and Parts industry.)

Manufacturers of trailers, formerly classified in the Motor Vehicle industry, are now assigned to the Motor-Vehicle Bodies and Motor-Vehicle Parts industry, as trailers are more closely allied to the products of the latter industry than to those of the former. Although this change brought about a considerable reduction in the number of establishments in the Motor Vehicle industry, its effect on the value of products amounted to only a fraction of 1 percent. The number of establishments given for 1929 in table 1 has been revised for comparison with 1931 by deducting the number engaged primarily in the manufacture of trailers, but since the effect on the other items was negligible, they have not been revised. No revisions of any of the items for years prior to 1929 in table 1, nor of any of the items for any years in table 2, have been made. In table 3 the totals for 1929 and prior years (item 1) have been left unchanged, but the values of trailers made in 1929, 1927, and 1925 have been subtracted from the respective items for "Complete vehicles and chassis" and added to those for "Other products (not normally belonging to the industry)."

Number of manufacturers.—For census purposes an assembling plant (a plant in which parts made in another plant under the same management are assembled into complete motor vehicles) is treated as a manufacturing establishment, this being necessary in order that each State may be credited with its due share of the Motor Vehicle industry. As a result, the number of establishments shown by the census report is somewhat in excess of the actual number of manufacturers. The number of such manufacturers reporting at the census for 1931 (counting the General Motors organization as six) was 124. The numbers of manufacturers of the several classes of vehicles were as follows:

Passenger vehicles.....	41	Patrol wagons.....	3
Busses.....	27	Street-cleaning apparatus.....	5
Taxicabs.....	6	Trucks.....	90
Ambulances.....	6	Hearses and undertakers' wagons..	6
Fire-department apparatus.....	14		

The explanation of the difference between the sum of the numbers given above (198) and the net number of manufacturers (124) is found in the fact that manufacturers of 2 or more classes of vehicles are counted more than once in this statement but only once in the net total. Of the total of 1,911,717 passenger cars (exclusive of public

conveyances) built in 1931, 1,734,572, or 91 percent, were produced by 10 manufacturers (counting individually the manufacturers in the General Motors group).

Detailed statistics of products (table 3).—In the total value of products of this industry some duplication results from the inclusion of the value of bodies and parts made by certain manufacturers for sale to other manufacturers in the industry. (Bodies and parts for sale are made mainly in the Bodies and Parts industry. See pp. 1048 to 1054.) On the other hand, the value of the complete vehicles, chassis, etc., made during the census year was somewhat less than the net value of the output of the industry, for the reason that the latter includes the value of bodies and parts, and especially parts, produced for sale direct to dealers or individual customers for use as additional equipment or for replacement.

Motor vehicles manufactured, by value and tonnage classes.—The following statement shows, for 1931 and 1929, the numbers of passenger vehicles manufactured, grouped according to value, and the numbers of commercial vehicles, grouped according to capacity:

PASSENGER VEHICLES			COMMERCIAL VEHICLES (LIGHT DELIVERY CARS, TRUCKS, AND COMMERCIAL CHASSIS)		
	1931	1929		1931	1929
Total number.....	1,911,717	4,362,215	Total number.....	363,305	1,818,818
Value \$500 or less.....	1,101,981	1,749,642	Capacity $\frac{3}{4}$ ton or less.....	106,655	173,693
\$501 to \$750.....	487,601	1,745,759	Capacity 1 ton.....	26,092	144,854
\$751 to \$1,000.....	191,832	424,289	Over 1 to 2½ tons, inclusive.....	216,418	477,699
\$1,001 to \$1,500.....	78,509	301,072	3 to 4½ tons, inclusive.....	11,479	18,826
\$1,501 to \$2,000.....	26,899	93,230	5 tons.....	1,888	2,704
\$2,001 to \$2,500.....	8,419	23,475	Over 5 tons.....	773	1,042
\$2,501 to \$3,000.....	7,852	13,125			
\$3,001 and over.....	8,624	11,623			

¹ Exclusive of 55 trucks not reported according to capacity, made by establishments engaged primarily in other lines of manufacture.

Annual totals of monthly sales figures.—In addition to the biennial statistics, the Bureau of the Census also compiles monthly statistics on factory sales of motor vehicles. The annual totals of the monthly figures for 1931, 1929, etc., shown below, differ somewhat from the corresponding totals shown in the reports of the Biennial Census of Manufactures because the sum of the monthly figures for any 1 year represents exactly a calendar year, whereas the biennial-census returns sometimes represent fiscal years not coinciding with calendar years. Moreover, the monthly figures for all years represent sales, whereas the biennial-census figures for all years except 1929 represent production.

YEAR	Total	Passenger cars ¹	Trucks ²	YEAR	Total	Passenger cars ¹	Trucks ²
1922.....	2,544,176	2,274,185	269,991	1928.....	4,358,759	3,815,417	543,342
1923 ³	4,034,012	3,624,717	409,295	1929.....	5,358,420	4,587,400	771,020
1924 ³	3,602,540	3,185,881	416,659	1930 ³	3,355,989	2,784,745	571,241
1925 ³	4,265,830	3,735,171	530,659	1931.....	2,389,738	1,673,090	416,648
1926 ³	4,300,934	3,783,987	516,947	1932.....	1,370,675	1,135,491	235,187
1927.....	3,401,326	2,936,533	464,793				

¹ Light trucks using passenger chassis are here included with passenger vehicles, but in the biennial-census statistics the data for such trucks are included with those for trucks with tonnage less than 1 ton.

² Trucks, busses, funeral cars, fire apparatus, street sweepers, commercial and bus chassis, and foreign assemblies.

³ Revised.

Motor-vehicle registration.—The numbers of motor vehicles in use from year to year are shown by the annual registration figures assembled and published by the Bureau of Public Roads, Department of Agriculture. The number of registrations during each year, however, includes some duplication due to the scrapping of motor vehicles. The number of cars and trucks scrapped or discarded within the year is included in the total number registered, but not in the total number actually in use at the end of the year. Thus, in order to determine the actual number of motor vehicles in use at the end of the year, it would be necessary to reduce the total number of registrations by subtracting from it the number of vehicles scrapped or discarded during the year. It may be assumed, however, that the variation in the extent of the duplication due to this cause is not sufficient to have any material effect on the comparableness of the figures for the several years covered by the following statement:

YEAR ¹	Registrations of motor vehicles, not including motor-cycles	Number of registrations to 1,000 population	YEAR ¹	Registrations of motor vehicles, not including motor-cycles	Number of registrations to 1,000 population
1913.....	1,258,062	13	1923.....	15,090,936	134
1914.....	1,711,339	17	1924.....	17,591,981	154
1915.....	2,445,664	24	1925.....	19,937,274	172
1916.....	3,512,996	35	1926.....	22,061,393	187
1917.....	4,983,340	48	1927.....	23,133,241	194
1918.....	6,146,617	59	1928.....	24,493,124	204
1919.....	7,565,446	72	1929.....	26,561,443	217
1920.....	9,231,941	86	1930.....	28,523,779	215
1921.....	10,463,295	96	1931.....	28,814,103	207
1922.....	12,238,375	111			

¹ No registration figures covering the entire United States have been compiled for years prior to 1913.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately.]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ¹
<i>United States</i>						
1931.....	178	134,866	\$156,755,887	\$1,044,405,902	\$1,567,526,262	\$523,120,360
1929.....	210	226,116	366,579,233	2,401,511,763	3,722,793,274	1,321,281,511
1927.....	244	187,910	321,664,093	1,839,426,249	2,848,442,843	959,016,594
1925.....	264	197,728	341,210,401	2,108,191,812	3,198,122,633	1,089,930,821
1923.....	297	241,356	406,730,278	2,147,463,352	3,163,327,874	1,015,864,522
1921.....	351	143,658	221,973,586	1,107,062,085	1,671,336,976	564,324,891
	385					
1919.....	315	210,559	312,165,870	1,578,651,574	2,387,903,287	809,251,713
1914.....	300	79,307	66,934,359	292,597,565	503,230,137	210,632,572
1909.....	265	51,294	33,180,474	107,731,446	193,823,108	86,091,662
1904.....	121	10,239	6,178,950	11,658,138	26,645,064	14,986,926
1899.....	57	2,241	1,320,658	1,804,287	4,748,011	2,943,724

Footnotes at end of table.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931—Continued

[See note at head of table]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States—Continued</i>						
Percent of increase or decrease (—):						
1929-31.....	-15.2	-40.4	-57.2	-56.5	-57.9	-60.4
1927-29.....	-7.6	20.3	14.0	27.1	30.7	37.8
1925-27.....	-11.1	-5.0	-5.7	-10.4	-10.9	-12.0
1923-25.....	-15.4	-18.1	-16.1	-1.8	1.1	7.3
1921-23.....	-8.8	68.0	83.2	94.0	89.3	80.0
1919-21.....	22.2	-31.8	-28.9	-20.9	-30.0	-30.3
1921-31.....	-53.8	-6.1	-29.4	-5.7	-6.2	-7.3
1919-29.....	-22.5	7.4	17.4	52.1	55.9	63.3
1909-19.....	18.9	310.5	840.8	1,365.4	1,132.0	840.0
1899-1909.....	364.9	2,188.9	2,412.4	5,870.9	3,982.2	2,824.6
<i>States, 1931</i>						
California.....	13	3,316	\$4,654,574	\$51,637,433	\$67,681,676	\$16,044,243
Illinois.....	14	2,244	3,017,716	17,856,555	25,324,655	7,468,100
Indiana.....	15	12,507	14,440,173	71,248,706	114,480,987	43,232,261
Michigan.....	20	64,077	75,247,987	375,174,944	635,942,056	260,767,112
New York.....	18	6,016	8,077,014	115,530,064	153,357,145	37,827,081
Ohio.....	25	14,932	14,899,381	94,382,370	136,572,571	42,190,201
Pennsylvania.....	13	5,853	7,060,632	29,365,836	41,058,056	11,692,220
Wisconsin.....	12	5,856	5,561,043	63,619,305	97,227,427	33,608,121
Other States ³	39	20,065	23,797,367	225,590,688	295,881,689	70,291,001

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.³ Not including number of establishments engaged primarily in the manufacture of trailers; comparable with item for 1931. See "Description of the industry," second paragraph, p. 1040.⁴ Including number of manufacturers of trailers; comparable with items for preceding years. See "Description of the industry," second paragraph, p. 1040.⁵ Colorado, 3 establishments; District of Columbia, 1; Florida, 1; Georgia, 2; Iowa, 1; Kentucky, 1; Louisiana, 1; Maryland, 1; Massachusetts, 4; Minnesota, 1; Missouri, 5; Nebraska, 3; New Jersey, 4; North Carolina, 2; Oklahoma, 1; Oregon, 1; Tennessee, 1; Texas, 3; Virginia, 1; Washington, 2.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, AND 1914, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8. No comparable data are available for years prior to 1914.]

	Average number employed during year	NUMBER REPORTED FOR—											
		January	February	March	April	May	June	July	August	September	October	November	December
United States													
1931	134,866	136,925	140,523	146,490	152,471	152,233	141,407	138,004	135,890	130,833	117,136	107,408	119,131
1929	226,116	235,612	259,078	262,467	262,808	255,247	241,309	233,673	223,773	219,172	195,283	167,686	162,130
1925	197,728	167,088	170,084	184,952	200,398	202,966	198,924	199,092	197,807	211,436	226,384	215,162	204,444
1919	210,559	174,694	179,147	185,578	195,198	194,970	206,000	217,805	224,854	231,115	236,240	239,443	241,709
1914	79,307	79,694	83,440	84,832	86,271	81,130	74,094	72,737	79,449	80,975	80,839	74,161	75,062
States, 1931													
California	3,316	3,730	3,979	4,074	4,267	4,177	3,992	3,792	3,792	1,952	1,940	1,849	1,916
Illinois	2,244	2,339	2,419	2,489	2,494	2,499	2,284	2,295	2,295	2,293	2,272	1,631	1,239
Indiana	12,507	12,764	13,385	13,739	14,188	13,965	12,390	11,870	11,703	11,212	11,555	10,772	12,561
Michigan	64,077	64,148	66,470	68,705	70,594	69,661	64,478	64,156	63,279	62,796	53,774	55,015	65,848
New York	6,016	5,143	5,785	6,660	6,948	7,014	5,953	5,828	6,337	5,938	5,015	5,669	5,900
Ohio	14,932	15,455	14,531	15,739	17,128	17,608	17,053	15,912	14,818	14,091	13,220	11,997	11,959
Pennsylvania	5,853	6,636	6,514	6,540	6,634	6,600	6,018	5,820	5,674	5,753	5,048	4,437	4,567
Wisconsin	5,856	5,955	6,035	6,195	6,339	6,315	6,441	6,330	6,110	5,670	5,128	4,227	5,452

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31

The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9]

KIND	1931	1929	1927	1925
1. Motor Vehicle industry, all products, total value.....	\$1,567,526,262	\$3,722,793,274	\$2,843,442,843	\$3,108,122,633
2. Complete vehicles and chassis:				
Number.....	2,295,009	5,293,424	3,335,912	4,164,855
Value.....	\$1,386,081,671	\$3,410,959,147	\$2,540,116,820	\$2,946,369,772
3. Other products (not normally belonging to the industry).....	\$174,068,762	\$300,835,821	\$292,221,667	\$242,117,788
4. Receipts for repair work.....	\$7,375,829	\$10,998,306	\$16,104,356	\$9,635,073
5. Motor vehicles and chassis made as secondary products in other industries:				
Number.....	588	663	121	219
Value.....	\$1,435,040	\$1,096,605	\$597,391	\$451,440
Motor vehicles and chassis, all industries:				
Aggregate (sum of 2 and 5):				
Number.....	2,295,597	5,294,087	3,336,033	4,165,074
Value.....	\$1,387,516,711	\$3,412,055,752	\$2,540,714,211	\$2,946,821,212
Passenger vehicles (not including public conveyances):				
Total number.....	1,911,717	4,362,215	2,817,306	3,565,945
Total value.....	\$1,119,816,868	\$2,767,339,368	\$2,147,562,710	\$2,483,885,306
Closed:				
Total number.....	1,786,393	3,917,370	2,408,148	2,080,697
Total value.....	\$1,059,550,098	\$2,537,937,525	\$1,918,157,677	\$1,786,834,065
Coupes (including convertible):				
Number.....	506,257	945,062	465,157	2,080,697
Value.....	\$271,228,459	\$567,118,238	\$353,165,131	\$1,786,834,065
2-door sedans and coaches:				
Number.....	503,921	1,268,170		
Value.....	\$223,953,851	\$625,715,203		
4-door sedans:				
Number.....	763,884	1,629,806	1,942,991	
Value.....	\$553,685,316	\$1,269,459,602	\$1,564,992,546	
Other closed (landaus, broughams, etc.):				
Number.....	12,331	74,332		
Value.....	\$10,682,472	\$75,044,482		
Open:				
Total number.....	125,324	444,845	409,158	1,485,248
Total value.....	\$60,266,770	\$229,401,843	\$229,405,033	\$697,051,241
Roadsters and runabouts:				
Number.....	103,947	298,401	197,880	390,062
Value.....	\$47,741,235	\$151,108,503	\$116,099,471	\$180,845,006
Other:				
Number.....	21,377	146,444	211,278	1,095,186
Value.....	\$12,525,535	\$78,293,340	\$113,305,562	\$516,206,235
Public conveyances:				
Total number.....	9,718	26,100	8,968	15,295
Total value.....	\$26,274,327	\$58,361,038	\$27,982,060	\$43,690,144
Motor busses (school, sight-seeing, and public utility):				
Under 21 passengers:				
Number.....	1,147	5,639	(¹)	(¹)
Value.....	\$1,274,911	\$7,452,042	(¹)	(¹)
21 to 32 passengers:				
Number.....	1,967	2,332	(¹)	(¹)
Value.....	\$8,031,588	\$13,572,817	(¹)	(¹)
33 passengers and over:				
Number.....	1,127	1,101	(¹)	(¹)
Value.....	\$8,620,076	\$10,587,618	(¹)	(¹)
Taxis:				
Number.....	5,477	17,028	(¹)	(¹)
Value.....	\$8,347,752	\$26,748,561	(¹)	(¹)

Footnotes at end of table.

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31—Continued

[See note at head of table]

KIND	1931	1929	1927	1925
Motor vehicles and chassis, all industries—Continued.				
Other vehicles and apparatus—Government, (Federal, State, county, and municipal), etc.:				
Total number.....	1,215	1,900	1,599	1,233
Total value.....	\$6,163,290	\$10,156,108	\$11,521,291	\$10,486,267
Ambulances:				
Number.....	196	361	219	129
Value.....	\$448,779	\$1,005,864	\$660,698	\$527,679
Fire-department apparatus:				
Number.....	666	1,350	1,145	1,020
Value.....	\$4,989,864	\$7,863,644	\$9,958,679	\$9,588,982
Other (patrol wagons, street sprinklers, street sweepers, etc.):				
Number.....	353	249	235	84
Value.....	\$724,647	\$1,286,600	\$892,914	\$369,606
Commercial vehicles:				
Total number.....	245,735	391,593	329,673	341,811
Total value.....	\$164,100,693	\$277,352,017	\$258,404,005	\$237,243,212
Light delivery (less than 1 ton):				
Number.....	79,821	124,414	160,981	135,976
Value.....	\$35,672,812	\$64,229,473	\$33,882,564	\$24,060,170
Trucks (1 ton and over):				
Number.....	164,220	261,523	266,492	303,824
Value.....	\$125,062,153	\$205,772,262	\$220,049,809	\$257,803,815
Hearse and undertakers' wagons:				
Number.....	1,145	2,316	2,200	2,011
Value.....	\$2,953,526	\$5,655,220	\$4,471,632	\$5,359,227
Other:				
Number.....	549	3,340	-----	-----
Value.....	\$412,202	\$1,695,062	-----	-----
Chassis:				
Total number.....	127,212	512,219	178,487	240,790
Total value.....	\$71,161,533	\$298,847,221	\$95,244,145	\$121,516,283
Passenger, except bus:				
Number.....	7,556	76,401	56,074	87,780
Value.....	\$3,739,131	\$32,397,856	\$27,156,267	\$39,919,444
Commercial and bus:				
Number.....	119,656	435,818	122,413	153,010
Value.....	\$67,422,402	\$266,449,365	\$68,087,878	\$81,506,839

¹ Includes values of trailers as follows: 1929, \$10,101,061; 1927, \$6,690,238; 1925, \$4,658,636. See "Description of the industry," second paragraph, p. 1040.

² In order to make the figures covered by this footnote strictly comparable with the corresponding ones for 1931, data for trailers have been excluded. See "Description of the industry," second paragraph, p. 1040.

³ The figures for roadsters and light delivery cars for 1925 are not strictly comparable with those for 1927, because of the fact that a large number of roadsters with slip-on bodies manufactured in 1925 were practically passenger vehicles and were so classified, whereas the roadsters with slip-on bodies reported for 1927 were commercial vehicles and were classified as such.

⁴ Not called for on schedule.

TABLE 4.—PRODUCTS, BY KIND, NUMBER, AND, VALUE, BY STATES: 1931

[This table gives statistics for each State for which it is possible to publish separate figures without disclosing, exactly or approximately, the output of individual establishments. In some cases, however, certain of the "Other States" outranked some of the States for which separate figures are given]

KIND AND STATE	Number of establishments	PRODUCTS	
		Number	Value
Passenger vehicles (not including public conveyances).....	215	1,911,717	\$1,119,816,868
Closed, total.....	81	1,786,393	1,059,550,098
California.....	5	88,855	43,261,429
Indiana.....	8	93,277	83,950,318
Michigan.....	18	651,532	409,512,646
New York.....	6	212,163	104,432,744
Ohio.....	9	144,383	70,644,225
Wisconsin.....	5	136,031	74,634,706
Other States.....	30	460,152	213,114,039
Open, roadsters and runabouts, total.....	68	103,947	47,741,235
California.....	5	11,903	5,214,702
Michigan.....	14	14,298	9,862,825
New York.....	5	15,563	5,856,256
Ohio.....	7	10,640	4,304,611
Other States.....	37	51,603	22,502,841
Open, other than roadsters and runabouts, total.....	66	21,377	12,525,535
Indiana.....	7	397	420,285
Michigan.....	13	3,674	4,088,861
New York.....	6	2,584	1,333,866
Ohio.....	6	1,778	755,825
Wisconsin.....	4	950	561,845
Other States.....	30	11,994	5,364,853
Public conveyances (busses and taxicabs), total.....	55	9,718	20,274,327
California.....	4	399	436,818
Michigan.....	5	5,674	14,267,060
Ohio.....	8	1,249	5,916,059
Other States.....	38	2,396	5,654,390
Commercial vehicles, total ¹	127	245,735	164,190,693
California.....	12	13,909	9,005,469
Illinois.....	10	9,090	8,478,295
Indiana.....	8	6,924	9,063,501
Michigan.....	15	39,612	32,672,592
New York.....	13	17,686	9,987,352
Ohio.....	17	40,091	29,603,944
Pennsylvania.....	11	11,391	8,629,391
Wisconsin.....	7	16,793	9,166,195
Other States.....	34	90,209	47,493,954
Chassis, passenger and commercial, total.....	91	127,212	71,161,533
Illinois.....	5	1,308	1,274,459
Indiana.....	9	5,072	4,025,703
Michigan.....	20	12,433	6,442,547
New York.....	9	29,430	14,571,712
Ohio.....	7	10,562	5,246,705
Other States.....	41	68,407	39,600,407

¹ Includes data for 1,145 hearses and undertakers' wagons valued, at \$2,953,526.

MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS

[A preliminary report for this industry was issued under date of Nov. 17, 1932]

Description of the industry.—The establishments in this industry are engaged primarily in the manufacture, for sale as such (or for transfer to motor-vehicle manufacturing establishments located elsewhere but operated under the same ownership), of motor-vehicle bodies, tops, gears (transmission, differential, and steering), rims, frames, wheels, radiators, windshields, axles, bumpers, bumperettes, shock absorbers, sheet metal for motor vehicles (such as fenders, dust shields, and hoods), various other parts and assemblies (except complete chassis), and trailers. The manufacture of certain other parts and assemblies, of which the most important are engines, motors for electric vehicles, tires, springs, ignition apparatus, batteries, and starting and lighting systems,¹ is not, however, included in this industry. Where a manufacturer makes various motor-vehicle parts in his main plant and assembles them into complete vehicles at branches, the main plant, with its wage earners, is classified in the Bodies and Parts industry and the branches in the Motor Vehicle industry. Similarly, if a manufacturer builds bodies in one plant and installs them on chassis in another, the first plant is classified in the Bodies and Parts industry and the second in the Motor Vehicle industry.

Where all the parts, including the bodies, are made and assembled in the same plant, the entire plant is classified in the Motor Vehicle industry proper and no separate report is made covering the manufacture of the bodies and parts.

Establishments engaged primarily in the manufacture of trailers, formerly classified in the Motor Vehicle industry, are now classified in the Bodies and Parts industry. (See "Description of the industry," second paragraph, p. 1040.) The number of establishments shown for 1929 in table 1 has been revised for comparison with 1931 by adding the number engaged primarily in the manufacture of trailers, but since the effect on the other items was negligible, they have not been revised. No revisions of any of the items for years prior to 1929 in table 1, nor of any of the items for any years in table 2, have been made. The only change made in table 3 is the insertion of the numbers and values of trailers manufactured in 1929 and earlier years but the values have not been included in items 1 and 2 nor in the aggregate value of bodies, parts, and trailers, at the beginning of the table.

¹ Establishments engaged primarily in the manufacture of engines, tires, and springs, for sale as such, are classified, respectively, under "Engines, turbines, tractors, water wheels, and wind mills," "Rubber tires and inner tubes," and "Springs, steel, except wire, not made in plants operated in connection with rolling mills"; and those making motors for electric automobiles or ignition apparatus, batteries, and starting and lighting systems for gasoline automobiles as their products of chief value are classified under "Electrical machinery, apparatus and supplies."

MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS 1049

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1904-31, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately. No comparable data are available for years prior to 1904.]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	940	150,649	\$193,770,459	\$510,945,484	\$945,406,758	\$428,461,274
1929.....	(³ 1,188)	221,332	366,503,985	856,955,637	1,537,929,793	680,944,156
1927.....	1,213	181,489	291,290,968	641,306,562	1,151,426,365	510,119,803
1925.....	1,358	228,382	372,720,933	862,721,451	1,523,279,923	680,558,472
1923.....	2,120	163,530	253,147,058	564,107,225	1,013,112,410	449,035,185
1921.....	1,974	69,119	96,779,079	213,964,817	408,016,532	194,051,715
1919.....	2,515	132,556	178,955,503	362,027,302	692,170,692	330,143,390
1914.....	971	47,785	34,562,515	63,610,365	129,601,337	65,990,972
1909.....	478	24,427	15,513,393	23,914,290	55,378,967	31,464,677
1904.....	57	1,810	980,008	1,493,227	3,388,472	1,895,245
Percent of increase or decrease (—):						
1929-31.....	-20.9	-31.9	-47.1	-39.7	-38.5	-37.1
1927-29.....	-4.6	22.0	25.8	33.6	33.6	33.5
1925-27.....	-10.7	-20.5	-21.8	-25.7	-24.4	-22.8
1923-25.....	-35.9	39.7	47.2	52.9	50.4	47.1
1921-23.....	7.4	136.6	161.6	163.6	148.3	131.4
1919-21.....	-21.5	-47.9	-45.9	-40.9	-41.1	-41.2
1921-31.....	-52.4	118.0	100.2	141.6	131.7	120.8
1919-29.....	-54.1	67.0	104.8	136.7	122.2	106.3
1909-19.....	426.2	442.7	1,053.6	1,413.9	1,149.9	949.3
<i>States, 1931</i>						
Alabama.....	3	23	\$32,452	\$27,273	\$36,836	\$59,557
California.....	72	1,587	2,059,448	7,961,717	12,640,895	4,679,178
Colorado.....	8	65	78,749	84,965	222,733	137,768
Connecticut.....	19	452	478,567	782,132	1,856,929	1,074,797
Illinois.....	83	3,356	4,032,371	7,555,494	17,806,842	10,251,848
Indiana.....	53	8,353	9,427,883	19,340,622	46,249,452	26,909,460
Iowa.....	12	211	213,368	434,790	917,630	483,040
Louisiana.....	9	63	67,714	228,646	499,422	270,776
Maryland.....	6	106	156,355	112,986	319,625	206,639
Massachusetts.....	37	977	1,159,067	1,527,534	3,892,109	2,364,575
Michigan.....	126	88,952	116,866,823	318,340,234	572,057,386	253,717,155
Minnesota.....	18	191	233,323	574,829	1,351,368	776,539
Nebraska.....	4	38	40,005	101,831	219,866	117,975
New Jersey.....	41	1,181	1,603,805	2,098,962	5,022,524	2,923,622
New York.....	136	9,160	12,696,061	37,324,261	68,858,044	31,533,783
North Carolina.....	7	224	215,154	297,413	750,234	452,821
Ohio.....	103	17,907	23,513,882	62,517,390	115,132,347	52,614,957
Oregon.....	5	62	72,150	126,204	264,636	138,434
Pennsylvania.....	66	5,117	6,815,648	8,154,742	19,133,308	10,968,566
Rhode Island.....	4	45	57,019	63,542	184,695	121,153
Texas.....	15	133	142,360	245,788	588,605	342,517
Utah.....	3	26	27,521	26,342	68,116	41,774
Virginia.....	5	247	201,893	401,576	867,908	466,332
Washington.....	10	168	197,695	234,378	583,584	349,206
Wisconsin.....	35	8,315	9,039,999	27,238,099	45,155,842	17,916,943
Other States ⁴	60	3,650	4,340,967	21,113,794	30,655,833	9,542,059

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.
² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ Including number of establishments engaged primarily in the manufacture of trailers; comparable with item for 1931. See "Description of the industry," second paragraph, p. 1040.

⁴ Not including number of manufacturers of trailers; comparable with items for preceding years. See "Description of the industry," second paragraph, p. 1040.

⁵ Arizona, 1 establishment; Arkansas, 2; Delaware, 1; Florida, 3; Georgia, 6; Kansas, 4; Kentucky, 7; Maine, 1; Mississippi, 1; Missouri, 20; New Hampshire, 3; Oklahoma, 2; South Carolina, 2; South Dakota, 2; Tennessee, 5.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, AND 1914, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8. No comparable data are available for years prior to 1914]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
		United States											
1931.....	150,649	169,576	178,112	181,756	181,929	163,204	150,280	125,634	131,772	112,293	119,742	130,629	
1929.....	221,322	239,677	251,662	254,561	254,327	236,684	235,215	230,083	224,757	195,473	162,141	158,783	
1925.....	238,382	196,151	208,660	224,970	235,470	233,091	227,727	230,718	246,947	256,117	253,688	242,695	
1919.....	132,556	108,857	115,005	119,577	122,523	125,788	133,941	140,420	147,160	153,034	156,998	157,835	
1914.....	47,785	47,280	50,941	52,683	51,511	48,612	46,811	46,243	46,550	47,270	45,859	43,988	
States, 1931													
Alabama.....	23	22	24	23	24	21	27	22	22	23	22	25	
California.....	1,537	1,646	1,686	1,698	1,730	1,718	1,607	1,506	1,534	1,410	1,451	1,532	
Colorado.....	65	56	66	67	71	77	73	73	67	64	59	47	
Connecticut.....	452	423	432	485	508	523	427	380	454	467	449	458	
Illinois.....	3,356	3,576	3,802	4,027	4,245	3,770	3,166	2,899	2,865	2,730	2,944	2,761	
Indiana.....	8,353	9,459	9,785	9,636	9,824	8,635	8,143	8,362	7,253	6,115	6,969	7,784	
Iowa.....	211	177	207	208	201	349	268	211	193	188	162	170	
Louisiana.....	63	61	65	64	64	64	65	66	66	63	53	59	
Maryland.....	106	99	109	108	108	114	116	128	110	98	93	82	
Massachusetts.....	977	865	910	1,329	1,251	1,125	742	966	818	870	965	962	
Michigan.....	88,932	100,468	110,402	111,785	111,579	97,863	89,102	66,378	77,265	60,405	64,287	72,603	
Minnesota.....	191	158	198	180	183	194	186	206	229	212	207	173	
Nebraska.....	38	35	36	36	36	37	39	46	53	49	32	22	
New Jersey.....	1,181	1,179	1,163	1,238	1,303	1,248	1,151	1,140	1,151	1,124	1,129	1,120	
New York.....	9,160	9,318	9,932	10,710	10,893	9,805	9,381	8,023	8,115	8,144	7,897	8,488	
North Carolina.....	224	169	171	196	208	211	251	385	307	201	225	214	
Ohio.....	17,907	18,722	19,080	20,639	20,209	18,063	17,620	16,407	14,826	15,315	16,494	16,936	
Oregon.....	62	52	57	84	88	69	69	67	64	60	52	47	
Pennsylvania.....	5,117	4,985	5,395	5,453	5,615	5,013	4,631	4,093	4,587	4,355	5,215	4,444	
Rhode Island.....	45	40	58	48	49	44	45	44	41	40	48	40	

Texas.....	133	141	143	147	133	132	133	132	126	131	143	117	116
Utah.....	26	6	6	35	36	36	37	30	30	30	23	20	20
Virginia.....	247	233	222	240	274	284	262	230	225	221	268	247	243
Washington.....	168	172	185	185	187	178	187	186	173	149	159	132	122
Wisconsin.....	8,315	8,301	8,598	8,791	8,885	9,023	9,060	8,729	8,808	8,107	7,346	7,202	6,849

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9]

KIND	1931	1929	1927	1925
1. Motor-Vehicle Bodies and Motor-Vehicle Parts industry, all products, total value.....	\$945,406,758	\$1,537,929,793	\$1,151,426,305	\$1,523,279,923
2. Bodies, parts, and trailers.....	879,609,891	1,431,457,149	1,004,186,682	1,465,366,168
3. Other products (not normally belonging to the industry).....	57,796,542	93,409,557	42,216,853	41,832,544
4. Receipts for contract and repair work.....	8,000,325	13,063,087	15,022,830	16,081,211
5. Bodies and parts made as secondary products in other industries.....	23,596,113	35,556,657	18,953,058	17,273,931
Motor-vehicle bodies, parts, and trailers, all industries:				
Aggregate value (sum of 2 and 5).....	\$903,206,004	\$1,467,013,806	\$1,113,139,740	\$1,482,639,190
Bodies:				
Passenger (not including public conveyance):				
Total number.....	1,321,549	2,562,413	1,816,532	(¹)
Total value.....	\$226,671,324	\$509,376,580	\$416,866,443	\$414,149,356
Closed:				
Total number.....	1,289,346	2,502,715	1,746,871	(²)
Total value.....	\$220,889,816	\$495,581,280	\$406,832,616	\$371,773,157
Coupé (including convertible):				
Number.....	409,938	632,479		
Value.....	\$64,929,333	\$100,365,987		
2-door sedan or coach:				
Number.....	300,786	619,542		
Value.....	\$41,450,298	\$95,315,577		
4-door sedan:				
Number.....	564,750	1,155,844	(³)	(³)
Value.....	\$111,703,538	\$273,737,273		
Other (landau, brougham, etc.):				
Number.....	13,872	94,850		
Value.....	\$2,806,647	\$26,162,443		
Open:				
Total number.....	16,163	59,698	69,661	(²)
Total value.....	\$3,272,160	\$13,795,300	\$10,033,827	\$42,376,169
Roadster and runabout:				
Number.....	8,228	42,284		
Value.....	\$1,123,428	\$7,940,057		
Other:				
Number.....	7,937	17,414	(³)	(³)
Value.....	\$2,148,732	\$5,855,243		
Passenger, not reported by kind:				
Number.....	16,040			
Value.....	\$2,509,348			
Truck and commercial, total:				
Number reported:				
Number.....	167,175	295,445	166,673	
Value.....	\$26,355,152	\$43,358,263	\$32,419,400	
Number not reported, value.....	\$1,124,924		\$243,845	\$41,175,144
Panel (including van):				
Number.....	49,524	58,556		
Value.....	\$9,197,301	\$13,826,790		
Platform (including stake):				
Number.....	48,876	97,849		
Value.....	\$3,663,767	\$6,636,530		
Express (including screen):				
Number.....	21,155	37,245	146,726	(²)
Value.....	\$2,686,866	\$5,814,191	\$27,575,009	\$35,829,557
Truck and commercial, not reported by kind:				
Number reported:				
Number.....	21,252	28,313		
Value.....	\$6,231,264	\$8,059,612		
Number not reported, value.....	\$1,124,924		\$243,845	\$366,845

Footnotes at end of table.

MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS 1053

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31—Continued

[See note at head of table]

KIND	1931	1929	1927	1925
Motor-vehicle bodies, parts, and trailers, all industries—Continued.				
Bodies—Continued.				
Truck and commercial, total—Continued.				
Dump:				
Number.....	25,440	41,611	19,181	(2)
Value.....	\$3,739,765	\$7,766,975	\$3,769,465	\$4,072,812
Hearse and ambulance:				
Number.....	928	1,871	766	(2)
Value.....	\$834,189	\$1,254,165	\$1,074,929	\$806,230
Public-conveyance:				
Total number.....	11,526	17,840	5,283	(2)
Total value.....	\$8,410,145	\$16,693,022	\$6,621,641	\$13,900,499
Bus:				
Under 21 passengers:				
Number.....	4,632	2,900	(2)	(2)
Value.....	\$2,201,982	\$1,984,457	(2)	(2)
21 to 32 passengers:				
Number.....	3,604	4,737	(2)	(2)
Value.....	\$3,281,463	\$6,140,344	(2)	(2)
33 passengers and over:				
Number.....	1,025	1,409	(2)	(2)
Value.....	\$1,611,589	\$3,260,546	(2)	(2)
Taxicab:				
Number.....	2,265	8,704	(2)	(2)
Value.....	\$1,315,111	\$5,607,675	(2)	(2)
Trailers:				
Number.....	12,644	22,400	19,739	12,823
Value.....	\$9,555,681	\$10,816,120	\$7,212,074	\$4,937,006
Parts:				
Radiators (shells and cores), value.	\$27,312,134	\$59,420,739	\$38,754,672	\$41,447,298
Windshields:				
Number reported:				
Number.....	1,012,928	3,475,721	1,120,820	1,369,823
Value.....	\$3,950,419	\$14,563,281	\$8,175,336	\$11,454,323
Number not reported, value..	\$1,377,851			
Axles:				
Front:				
Number.....	1,720,416	1,943,117	1,755,089	1,028,054
Value.....	\$15,723,268	\$25,170,609	\$16,853,268	\$16,551,023
Rear, complete assemblies:				
Number.....	1,598,838	1,656,787	1,490,584	928,874
Value.....	\$52,021,625	\$69,694,566	\$64,584,255	\$52,429,145
Not specified, value.....			\$1,042,917	
Rear-axle housings:				
Number.....	1,326,163	1,212,289	1,227,315	775,994
Value.....	\$3,834,795	\$4,305,251	\$5,213,524	\$3,800,025
Rear-axle shafts:				
Number.....	2,437,763	1,016,644	771,114	739,736
Value.....	\$4,052,271	\$2,136,063	\$1,429,018	\$1,156,641
Wheels (other than dual wheels and 6-wheel sets):				
Total number.....	12,898,113	19,930,599	12,874,341	18,049,555
Total value.....	\$24,163,940	\$62,194,634	\$40,985,774	\$67,450,870
Wood:				
Number.....	1,193,806	4,184,350	8,556,522	13,319,287
Value.....	\$2,734,917	\$10,657,509	\$19,681,963	\$38,843,294
Wire and cast-metal spoke:				
Number.....	9,943,438	12,628,177	1,362,801	1,228,100
Value.....	\$16,569,633	\$38,336,136	\$10,064,595	\$10,969,577
Disc:				
Number.....	1,760,899	3,127,042	2,955,018	3,502,168
Value.....	\$4,859,390	\$13,200,989	\$11,249,216	\$17,635,000
Dual wheels and 6-wheel sets, value.....	\$1,673,415	(2)	(2)	(2)

Footnotes at end of table.

TABLE 3.—PRODUCTS, BY KIND, NUMBER, AND VALUE, FOR THE UNITED STATES: 1925-31—Continued

[See note at head of table]

KIND	1931	1929	1927	1925
Motor-vehicle bodies, parts, and trailers, all industries—Continued.				
Parts—Continued.				
Rims:				
Number.....	7,896,437	23,708,589	20,794,961	21,330,09
Value.....	\$5,945,656	\$15,102,834	\$13,931,569	\$17,762,04
Frames, total value.....	\$21,764,953	\$73,106,252	\$37,583,727	\$36,535,02
Assembled:				
Number.....	2,536,680	(¹)	2,299,031	2,694,55
Value.....	\$17,222,231	(¹)	\$25,950,938	\$29,957,98
Unassembled (sets):				
Number.....	421,621	(¹)	897,037	482,33
Value.....	\$4,542,722	(¹)	\$11,632,789	\$6,577,03
Clutches:				
Number.....	1,188,603	2,323,320	(²)	(²)
Value.....	\$4,481,237	\$8,122,509	(²)	(²)
Gears:				
Steering, complete units:				
Number.....	1,592,637	3,841,851	2,589,495	1,565,84
Value.....	\$6,735,003	\$19,697,825	\$17,926,266	\$11,949,93
Other than steering (trans- mission and differential), value.....	\$45,575,870	\$85,851,601	\$57,519,382	\$49,531,14
Shock absorbers:				
Number reported:				
Number.....	8,151,441	13,897,169	4,132,633	2,986,28
Value.....	\$10,619,606	\$31,066,386	\$12,619,508	\$11,747,67
Number not reported, value.....	\$512,674			
Bumpers:				
Number reported:				
Number.....	2,943,636	5,077,146	2,574,738	2,725,273
Value.....	\$7,612,290	\$19,421,113	\$12,077,403	
Number not reported, value.....	\$183,709			
Bumperettes:				
Pairs.....	1,078,005	2,989,206	914,396	2,725,273
Value.....	\$2,506,790	\$10,858,039	\$4,178,947	
Tops:				
Number reported:				
Number.....	128,947	(³)	(³)	(³)
Value.....	\$783,013	(³)	(³)	(³)
Number not reported, value.....	\$146,117			
Heaters:				
Number reported:				
Number.....	875,552	(²)	(²)	(²)
Value.....	\$4,473,449	(²)	(²)	(²)
Number not reported, value.....	\$121,463			
Horns:				
Number.....	3,165,864	8,014,268	4,803,290	4,270,741
Value.....	\$4,532,089	\$9,465,580	\$6,333,484	\$5,389,626
Windshield wipers, value.....	\$4,583,030	\$8,321,572	\$4,300,287	(²)
Sheet-metal parts for motor vehi- cles, such as fenders, dust shields, hoods, etc., value.....	\$27,880,501	\$24,471,557	\$18,371,024	\$10,755,115
Parts and accessories not re- ported by kind, value.....	\$348,521,610	\$354,315,380	\$294,208,050	\$647,853,494

¹ Not including value of trailers. See last paragraph of text, p. 1048.² Not called for on schedule.³ Not reported separately.⁴ See last paragraph of text, p. 1048.⁵ Not shown separately to avoid disclosing data for individual establishments.

SHIP AND BOAT BUILDING

[A preliminary report for this industry was issued under date of Nov. 22, 1932]

Description of the industry.—The statistics for this industry cover privately owned establishments engaged primarily in the construction or the repair of water craft of any kind. Since 1919 no data have been collected from shipyards operated by the Federal Government, and no data relating to such shipyards, for any year, are included in this report.

As generally used in this report, the term "ship" or "vessel" refers to craft of 5 gross tons measurement or over, while craft under 5 tons are designated as "boats." (See "Tonnage, gross, net, and displacement," below.)

Value of products.—The "value of products" for this industry, shown in tables 1 and 3, so far as it represents new construction, is limited to the value of work done during the year and therefore does not include the total value of completed vessels except those on which construction was begun and finished within the year. This total includes also the values of certain products other than water craft. (See table 3, item 3, "Other products.")

Tonnage, gross, net, and displacement.—The term "gross tonnage" is applied to the total internal capacity of a vessel expressed in tons of 100 cubic feet. "Net tonnage" refers to the internal cubic capacity remaining after deductions have been made from gross tonnage for space occupied by boilers, machinery, and coal bunkers or oil tanks, for quarters of officers and crew, and for other purposes directly or indirectly connected with the operation of the vessel. In other words, the net tonnage represents that portion of the vessel which is available for passengers and cargo. "Displacement tonnage" refers to the weight of the volume of water displaced, which, of course, is the same as the weight of the vessel itself. It is calculated on the basis of 35 cubic feet (approximately the volume of a long ton of sea water) to the ton. Naval vessels, and in a few cases other vessels built for the Federal Government, have been reported in displacement tonnage; and since in most cases it is impracticable to reduce such tonnage to gross tonnage, it has been necessary to combine displacement tonnage and gross tonnage in the totals given in tables 3 and 4 (see footnote 1, each table), although there is a considerable difference between the two units of measure.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	518	45,262	\$62,028,150	\$72,321,089	\$186,993,411	\$114,671,422
1929.....	624	55,089	85,274,153	85,848,690	231,300,165	145,451,475
1927.....	559	55,014	87,081,444	78,026,391	211,127,067	132,500,676
1925.....	565	50,224	74,275,019	60,298,064	177,181,960	110,882,996
1923.....	567	62,287	90,719,525	84,557,675	213,232,382	128,674,707
1921.....	640	106,445	155,943,490	169,368,425	400,834,105	231,465,680
1919.....	1,075	387,446	597,446,048	710,522,676	1,622,361,261	911,538,585
1914.....	1,147	44,489	32,931,150	38,596,970	88,682,071	50,085,101
1909.....	1,353	40,506	25,267,680	31,214,358	73,360,315	42,145,957
1904.....	1,097	50,754	29,241,087	37,463,179	82,769,239	45,306,060
1899.....	1,107	46,747	24,824,738	33,474,896	74,532,277	41,057,381
Percent of increase or decrease (—):						
1929-31.....	-17.0	-17.8	-23.7	-15.8	-19.2	-21.2
1927-29.....	11.6	0.1	1.4	9.2	9.6	9.8
1925-27.....	-1.1	9.5	17.2	18.6	19.2	19.5
1923-25.....	-0.4	-19.4	-18.1	-21.6	-16.9	-13.8
1921-23.....	-11.4	-41.5	-41.8	-50.1	-46.8	-44.4
1919-21.....	-40.5	-72.5	-73.9	-76.2	-75.3	-74.6
1921-31.....	-19.1	-57.5	-60.2	-57.3	-53.3	-50.5
1919-29.....	-42.0	-85.8	-85.2	-87.9	-85.7	-84.0
1909-19.....	-20.5	856.5	2,264.5	2,176.3	2,111.5	2,063.5
1899-1909.....	22.2	-13.4	1.8	-6.8	-1.6	2.7
<i>States, 1931</i>						
California.....	47	2,038	\$4,188,222	\$3,612,086	\$12,065,439	\$8,473,353
Connecticut.....	20	653	761,190	715,562	2,073,804	1,358,242
Delaware.....	8	457	550,061	973,287	1,899,340	926,053
Florida.....	23	490	463,488	485,980	1,670,788	1,064,808
Illinois.....	10	251	406,630	305,503	1,144,088	838,585
Louisiana.....	7	1,165	1,383,070	892,390	3,038,471	2,146,681
Maine.....	18	1,168	1,312,631	1,965,945	3,685,337	1,719,392
Maryland.....	27	1,481	2,167,423	2,796,679	6,817,884	4,021,205
Massachusetts.....	35	4,846	7,669,775	12,970,551	27,711,085	14,740,594
Michigan.....	18	926	1,290,394	1,809,385	4,655,342	2,845,957
Minnesota.....	9	152	249,965	227,180	571,991	344,811
Mississippi.....	4	10	11,499	7,778	25,743	17,965
New Jersey.....	37	8,499	11,020,570	14,749,471	31,311,359	16,561,888
New York.....	89	7,178	11,416,325	8,105,049	31,688,407	23,583,358
Ohio.....	16	1,083	1,540,987	1,144,150	3,323,782	2,179,632
Oregon.....	9	81	152,194	72,216	257,421	185,205
Pennsylvania.....	16	3,123	3,925,622	6,457,897	13,730,941	7,273,544
Rhode Island.....	9	427	620,588	678,128	1,442,227	764,669
Texas.....	8	424	500,516	297,371	1,120,693	823,322
Washington.....	43	780	1,207,748	1,181,542	2,944,044	1,762,502
Wisconsin.....	15	631	734,039	706,940	1,963,858	1,256,918
Other States.....	50	8,490	10,441,313	12,167,399	33,931,367	21,763,968

¹ See "Value of products," p. 1055.

² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. II.

³ Alabama, 5 establishments; Georgia, 2; Idaho, 1; Indiana, 6; Iowa, 1; Kansas, 1; Kentucky, 3; Missouri, 1; North Carolina, 2; South Carolina, 1; Vermont, 1; Virginia, 22; and West Virginia, 4.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8.]

Average number employed during year	NUMBER REPORTED FOR—											
	January	February	March	April	May	June	July	August	September	October	November	December
	United States											
1931.....	47,204	46,797	48,401	50,404	49,439	47,231	45,506	41,869	41,889	41,472	41,227	41,563
1929.....	48,076	50,180	56,767	59,968	59,305	56,500	55,276	52,740	52,510	55,642	57,003	58,022
1925.....	50,224	51,498	53,103	54,968	52,947	51,008	48,520	46,714	46,714	46,688	47,558	51,065
1919.....	387,446	400,553	432,454	429,218	427,614	418,438	403,539	390,825	396,255	323,985	301,172	302,206
1914.....	44,469	45,534	48,313	49,567	48,610	46,164	43,606	39,870	39,870	39,162	37,545	38,757
1909.....	38,516	37,665	39,922	42,256	42,244	41,690	40,190	39,149	40,283	41,151	41,023	42,075
States, 1931												
California.....	3,787	3,743	3,574	3,425	3,270	3,211	2,903	2,302	2,573	2,305	2,086	2,018
Connecticut.....	653	625	690	744	636	601	573	665	665	577	538	521
Delaware.....	463	465	463	465	463	463	463	422	422	469	471	466
Florida.....	469	482	487	483	446	562	483	452	463	469	471	466
Illinois.....	281	303	385	312	293	269	218	183	175	246	168	217
Louisiana.....	1,165	1,120	796	934	890	1,203	1,668	1,458	1,436	1,066	1,313	1,264
Maine.....	1,108	1,333	1,402	1,583	1,351	1,294	1,180	1,015	854	944	946	1,790
Maryland.....	1,481	1,742	1,608	1,671	1,670	1,608	1,492	1,459	1,218	1,167	1,361	1,371
Massachusetts.....	4,846	3,925	4,183	4,731	5,138	5,197	4,947	4,986	5,338	5,285	5,266	5,380
Michigan.....	926	792	1,353	1,860	1,822	1,285	992	432	571	418	388	489
Minnesota.....	152	71	131	209	242	245	238	160	105	99	90	121
Mississippi.....	16	8	8	10	13	13	13	8	8	8	8	8
New Jersey.....	8,499	7,969	7,540	8,695	8,699	8,736	8,840	8,426	8,715	9,148	8,884	8,971
New York.....	7,178	7,483	8,109	8,871	8,164	7,016	7,028	6,315	6,512	6,917	6,106	6,481
Ohio.....	1,083	1,133	1,154	1,158	1,154	1,271	1,271	1,230	1,230	1,220	1,051	831
Oregon.....	81	79	100	104	85	106	95	68	74	62	57	46
Pennsylvania.....	3,123	4,120	4,045	3,597	3,494	3,250	2,902	2,504	2,253	2,388	2,442	2,631
Rhode Island.....	427	413	599	574	579	410	353	318	393	393	326	378
Texas.....	424	564	596	607	306	368	367	330	533	517	366	445
Washington.....	780	1,094	1,039	874	821	698	573	588	565	665	732	612
Wisconsin.....	631	1,777	1,794	906	1,011	547	569	560	576	462	413	481

TABLE 3.—VESSELS LAUNCHED, DISTRIBUTED ACCORDING TO MATERIAL (STEEL AND WOOD) AND KIND OF POWER, BY NUMBER AND BY GROSS AND NET TONNAGE, AND VALUE OF WORK DONE; FOR THE UNITED STATES: 1931, 1929, 1927, AND 1925

MATERIAL AND KIND OF POWER	Cen- sus year	Num- ber of vessels launch- ed	TONNAGE		Value of prod- ucts (princi- pally value of work done during year) ²
			Gross ¹	Net	
1. Ship and boat building industry, all products, total value.....	1931	-----	-----	-----	\$186,993,411
	1929	-----	-----	-----	231,800,165
	1927	-----	-----	-----	211,127,067
	1925	-----	-----	-----	177,181,960
2. Ship and boat building (work done on vessels under construction), repair work, and miscellaneous products belonging to the industry, value.....	1931	-----	-----	-----	179,811,278
	1929	-----	-----	-----	223,308,025
	1927	-----	-----	-----	193,028,617
	1925	-----	-----	-----	163,153,695
3. Other products (not normally belonging to the industry), value.....	1931	-----	-----	-----	7,182,193
	1929	-----	-----	-----	7,992,140
	1927	-----	-----	-----	18,098,550
	1925	-----	-----	-----	14,028,265
4. Ship and boat building and repair work, secondary activities of other industries, value.....	1931	-----	-----	-----	960,310
	1929	-----	-----	-----	1,870,220
	1927	-----	-----	-----	577,311
	1925	-----	-----	-----	390,343
Ship and boat building and repair work, all industries: Aggregate value (sum of 2 and 4).....	1931	-----	-----	-----	180,777,588
	1929	-----	-----	-----	225,184,254
	1927	-----	-----	-----	193,605,828
	1925	-----	-----	-----	163,544,038
Ship and boat building, total value.....	1931	-----	-----	-----	64,701,696
	1929	-----	-----	-----	83,398,744
	1927	-----	-----	-----	87,827,672
	1925	-----	-----	-----	52,311,761
Vessels of 5 gross tons and over, total.....	1931	812	347,586	211,263	58,024,566
	1929	1,553	420,233	292,253	68,953,802
	1927	1,347	443,651	330,760	48,430,473
	1925	1,237	352,409	267,989	46,137,197
Steel, total.....	1931	324	315,331	183,067	52,149,705
	1929	475	289,050	182,679	53,417,038
	1927	587	308,941	208,471	37,837,463
	1925	369	242,027	157,086	35,929,130
Steam.....	1931	38	198,109	85,604	38,286,268
	1929	43	145,547	51,137	36,104,864
	1927	34	130,050	66,638	20,878,964
	1925	47	167,733	93,757	27,689,433
Motor.....	1931	54	18,841	11,452	7,574,500
	1929	64	21,554	12,263	9,524,472
	1927	69	50,728	30,635	6,105,916
	1925	31	6,730	3,632	2,408,636
Sail with auxiliary power.....	1931	1	101	81	90,416
	1929	9	116	105	47,000
	1927	3	156	107	129,021
	1925	4	1,871	1,629	181,600
Sail without auxiliary power.....	1931	-----	-----	-----	-----
	1929	3	180	135	45,000
	1927	2	17	15	15,700
	1925	-----	-----	-----	-----
Unrigged, total.....	1931	231	98,280	86,930	6,218,461
	1929	356	121,653	119,039	7,696,302
	1927	479	127,981	111,146	10,706,962
	1925	287	65,693	58,068	5,740,661

For footnotes, see end of table.

TABLE 3.—VESSELS LAUNCHED, DISTRIBUTED ACCORDING TO MATERIAL (STEEL AND WOOD) AND KIND OF POWER, BY NUMBER AND BY GROSS AND NET TONNAGE, AND VALUE OF WORK DONE; FOR THE UNITED STATES: 1931, 1929, 1927, AND 1925—Continued

MATERIAL AND KIND OF POWER	Census year	Number of vessels launched	TONNAGE		Value of products (principally value of work done during year) ¹
			Gross ¹	Net	
Ship and boat building and repair work, all industries—Continued					
Ship and boat building—Continued					
Vessels of 5 gross tons and over—Continued					
Steel—Continued					
Unrigged—Continued					
Barges, including sloop and schooner barges	1931	185	81,646	71,172	\$4,360,626
	1929	315	107,260	105,314	6,106,767
	1927	388	94,371	82,831	6,698,741
	1925	231	48,222	43,263	3,699,878
Canal boats	1931	2	3,638	2,762	700,899
	1929				
	1927	8	2,714	2,714	203,764
	1925	2	859	860	101,074
Lighters, scows, pile drivers, etc.	1931	44	12,996	12,996	1,156,936
	1929	41	14,393	13,725	1,589,535
	1927	83	30,896	25,601	3,804,457
	1925	54	16,612	14,005	1,948,609
Wooden, total	1931	488	32,255	27,236	5,874,861
	1929	1,078	131,183	109,574	15,536,164
	1927	760	134,710	122,289	11,099,010
	1925	868	110,382	100,903	10,206,067
Steam	1931	1	183	124	141,379
	1929	9	790	577	137,250
	1927	76	1,581	1,436	680,398
	1925	22	2,124	1,754	395,439
Motor	1931	342	8,570	5,756	4,544,618
	1929	626	18,784	13,329	10,712,880
	1927	356	16,481	11,290	6,568,623
	1925	344	11,511	7,329	5,690,231
Sail with auxiliary power	1931	38	1,171	851	559,950
	1929	73	3,373	2,254	1,137,324
	1927	41	1,501	1,022	797,506
	1925	133	2,666	1,962	916,362
Sail without auxiliary power	1931	6	92	77	36,834
	1929	14	585	518	173,690
	1927	5	166	128	102,328
	1925	7	283	214	54,413
Unrigged, total	1931	101	21,939	20,428	562,080
	1929	356	107,651	92,896	3,375,020
	1927	282	114,681	108,413	2,950,155
	1925	362	93,798	89,704	3,151,622
Barges, including sloop and schooner barges	1931	33	4,335	4,114	119,984
	1929	90	17,918	15,870	514,563
	1927	114	45,560	40,400	1,030,612
	1925	134	40,381	38,578	1,343,911
Canal boats	1931	10	9,769	8,619	150,337
	1929	42	38,065	30,496	606,604
	1927	12	6,040	6,040	150,250
	1925	15	4,489	4,207	150,600
Lighters, scows, pile drivers, etc.	1931	58	7,835	7,695	291,759
	1929	224	51,668	46,530	2,253,853
	1927	156	63,051	61,973	1,769,293
	1925	213	48,928	46,919	1,657,111

For footnotes, see end of table.

TABLE 3.—VESSELS LAUNCHED, DISTRIBUTED ACCORDING TO MATERIAL (STEEL AND WOOD) AND KIND OF POWER, BY NUMBER AND BY GROSS AND NET TONNAGE, AND VALUE OF WORK DONE; FOR THE UNITED STATES: 1931, 1929, 1927, AND 1925—Continued

MATERIAL AND KIND OF POWER	Cen- sus year	Num- ber of vessels launch- ed	TONNAGE		Value of prod- ucts (princi- pally value of work done during year) *
			Gross ¹	Net	
Ship and boat building and repair work, all indus- tries—Continued					
Ship and boat building—Continued					
Boats under 5 gross tons, total.....	1931	16,542	-----	-----	\$5,897,898
	1929	29,442	-----	-----	13,358,064
	1927	22,862	-----	-----	8,681,990
	1925	(²)	-----	-----	6,174,564
Motor, total.....	1931	6,169	-----	-----	4,520,666
	1929	14,930	-----	-----	11,397,119
	1927	2,466	-----	-----	6,272,631
	1925	1,369	-----	-----	4,282,077
Inboard ⁴	1931	2,724	-----	-----	3,822,878
	1929	2,600	-----	-----	8,147,501
Outboard ⁴	1931	3,445	-----	-----	697,788
	1929	12,330	-----	-----	3,249,618
Sailboats.....	1931	690	-----	-----	350,418
	1929	768	-----	-----	531,528
	1927	799	-----	-----	513,456
	1925	743	-----	-----	426,901
Rowboats.....	1931	4,859	-----	-----	271,083
	1929	6,531	-----	-----	399,919
	1927	12,868	-----	-----	1,074,127
	1925	10,940	-----	-----	816,774
Lifeboats, total.....	1931	539	-----	-----	431,302
	1929	790	-----	-----	417,185
	1927	433	-----	-----	160,881
	1925	(⁵)	-----	-----	(⁶)
Motor-propelled ⁴	1931	45	-----	-----	107,807
	1929	30	-----	-----	36,108
Hand-propelled ⁴	1931	494	-----	-----	323,465
	1929	760	-----	-----	381,077
Canoes.....	1931	3,388	-----	-----	211,007
	1929	4,683	-----	-----	341,092
	1927	5,960	-----	-----	453,453
	1925	6,568	-----	-----	477,906
Other.....	1931	897	-----	-----	113,422
	1929	1,740	-----	-----	271,221
	1927	336	-----	-----	107,442
	1925	(⁵)	-----	-----	* 170,906
Ships and boats not distributable by material and kind of power.....	1931	(³)	-----	-----	779,532
	1929	(³)	-----	-----	1,086,878
	1927	(³)	-----	-----	309,109
	1925	-----	-----	-----	-----
Value of work done on vessels under construction but not yet launched:					
Steel.....	1931	-----	-----	-----	33,148,169
	1929	-----	-----	-----	18,061,890
	1927	-----	-----	-----	27,814,551
	1925	-----	-----	-----	16,435,010
Wooden.....	1931	-----	-----	-----	1,181,734
	1929	-----	-----	-----	3,423,379
	1927	-----	-----	-----	3,789,913
	1925	-----	-----	-----	1,849,264

For footnotes, see end of table.

TABLE 3.—VESSELS LAUNCHED, DISTRIBUTED ACCORDING TO MATERIAL (STEEL AND WOOD) AND KIND OF POWER, BY NUMBER AND BY GROSS AND NET TONNAGE, AND VALUE OF WORK DONE; FOR THE UNITED STATES: 1931, 1929, 1927, AND 1925—Continued

MATERIAL AND KIND OF POWER	Cen- sus year	Num- ber of vessels launch- ed	TONNAGE		Value of prod- ucts (princi- pally value of work done during year) ¹
			Gross ²	Net	
Ship and boat building and repair work, all indus- tries—Continued					
Amount received for repair work:					
Steel-----	1931	-----	-----	-----	\$58,166,179
	1929	-----	-----	-----	³ 80,437,032
	1927	-----	-----	-----	⁴ 73,425,780
	1925	-----	-----	-----	61,500,748
Wooden-----	1931	-----	-----	-----	20,275,533
	1929	-----	-----	-----	34,291,205
	1927	-----	-----	-----	28,038,405
	1925	-----	-----	-----	28,012,812
Other products and receipts, value ⁵ -----	1931	-----	-----	-----	3,303,972
	1929	-----	-----	-----	5,572,504
	1927	-----	-----	-----	3,209,607
	1925	-----	-----	-----	3,434,443

¹ Figures include data for 63,990 tons for 1931, 65,046 tons for 1929, 41,174 tons for 1927, and 41,356 tons for 1925, reported as displacement tonnage. (See "Tonnage, gross, net, and displacement," p. 1055.)

² See "Value of products," p. 1055.

³ Data incomplete.

⁴ No data for years prior to 1929.

⁵ No data.

⁶ Value of lifeboats not reported separately; included in value of "Other."

⁷ Includes value of lifeboats. (See footnote 6.)

⁸ Figures include amounts received for repair work by establishments other than those classified in the Ship and Boat Building industry.

⁹ For 1931: knock-down boats, machine-shop work, sea sleds, ship parts, drydocking, storage, etc.

TABLE 4.—VESSELS LAUNCHED (5 GROSS TONS AND OVER), DISTRIBUTED ACCORDING TO MATERIAL (STEEL AND WOOD) AND KIND OF POWER, BY TONNAGE GROUPS, NUMBER, AND GROSS TONNAGE, FOR THE UNITED STATES: 1925 TO 1931

MATERIAL AND KIND OF POWER	CENSUS Year	TOTAL		LESS THAN 100 GROSS TONS		100 TO 499 GROSS TONS		500 TO 999 GROSS TONS		1,000 TO 2,999 GROSS TONS		3,000 GROSS TONS AND OVER	
		Number	Gross tonnage ¹	Number	Tonnage	Number	Tonnage	Number	Tonnage	Number	Tonnage	Number	Tonnage
Total.....	1931	812	347,586	478	11,920	239	55,535	39	27,132	40	66,056	16	186,943
	1929	1,553	430,233	897	27,101	436	80,791	106	122,978	35	47,807	19	132,456
	1927	1,847	443,651	615	19,703	558	135,741	103	78,032	47	70,053	16	139,819
	1925	1,237	352,469	647	26,415	489	116,200	80	53,211	7	8,896	14	151,687
Steel, total.....	1931	324	315,331	47	2,280	195	45,271	33	23,065	33	57,781	16	186,943
	1929	475	289,050	82	4,054	243	46,080	117	80,893	14	19,507	19	132,456
	1927	687	308,941	100	2,892	400	91,013	45	30,594	26	44,053	16	139,819
	1925	369	242,027	38	1,723	276	57,848	36	24,273	5	6,496	14	151,687
Steam.....	1931	38	198,109	2	188	11	2,506	7	4,427	2	4,045	16	186,943
	1929	43	145,547	5	494	10	2,497	6	4,017	3	6,053	19	132,456
	1927	34	130,059	5	462	11	3,012	9	7,514	4	8,704	14	117,281
	1925	47	167,733	2	198	17	4,807	11	6,815	3	4,136	14	151,687
Motor.....	1931	54	18,841	15	756	27	6,738	9	6,769	3	4,578	—	—
	1929	64	21,554	23	1,081	30	10,190	9	7,514	2	2,839	—	—
	1927	69	50,738	18	300	39	9,111	1	325	9	18,164	2	22,538
	1925	31	6,730	12	657	17	4,285	2	1,778	—	—	—	—
Sail.....	1931	1	101	—	—	1	101	—	—	—	—	—	—
	1929	12	296	12	296	—	—	—	—	—	—	—	—
	1927	5	173	4	61	—	—	—	—	—	—	—	—
	1925	4	1,871	—	—	1	191	3	1,680	—	—	—	—
Unrigged.....	1931	231	98,250	30	1,336	156	35,926	17	11,860	28	49,158	—	—
	1929	356	121,653	42	2,183	203	33,463	102	75,392	9	10,615	—	—
	1927	479	127,951	73	1,979	349	78,778	44	30,039	13	17,185	—	—
	1925	287	65,693	24	868	241	48,465	20	14,000	2	2,369	—	—
Wooden, total.....	1931	488	32,255	431	9,640	44	10,264	6	4,076	7	8,275	—	—
	1929	1,078	131,183	815	23,047	193	43,711	49	36,026	21	28,400	—	—
	1927	700	134,710	518	16,814	158	43,828	63	48,085	21	26,000	—	—
	1925	865	110,352	609	18,692	213	58,352	44	30,938	2	2,400	—	—

TABLE 5.—STEAM, MOTOR, AND UNRIGGED VESSELS LAUNCHED (5 GROSS TONS AND OVER), DISTRIBUTED ACCORDING TO KIND OF POWER, BY NUMBER AND BY GROSS AND NET TONNAGE, FOR THE UNITED STATES, 1925 TO 1931, AND FOR STATES, 1931

	Number	TONNAGE			Number	TONNAGE	
		Gross	Net			Gross	Net
STEAM				MOTOR—continued			
United States				States, 1931—Continued			
1931.....	39	198,292	85,628	New Jersey.....	11	426	324
1929.....	52	146,337	51,714	New York.....	46	2,165	1,526
1927.....	110	131,940	68,004	Ohio.....	60	864	684
1925.....	69	169,857	95,511	Oregon.....	1	6	5
States, 1931				Pennsylvania.....	3	608	456
Alabama.....	1	519	425	Rhode Island.....	2	37	27
Delaware.....	3	702	350	South Carolina.....	1	39	22
Indiana.....	2	513	476	Texas.....	4	78	39
Kentucky.....	3	501	460	Virginia.....	9	1,641	1,061
Massachusetts.....	5	43,591	25,037	Washington.....	28	1,785	561
Michigan.....	1	187	98	West Virginia.....	2	150	75
New Jersey.....	4	160,294	31,230	Wisconsin.....	7	160	119
New York.....	4	5,231	2,151	UNRIGGED			
Ohio.....	2	188	64	United States			
Pennsylvania.....	7	37,854	25,233	1931.....	332	120,219	107,358
Virginia.....	5	47,748	25,233	1929.....	712	229,304	211,935
West Virginia.....	1	700	104	1927.....	761	242,662	219,559
Wisconsin.....	1	264	104	1925.....	649	159,491	147,772
MOTOR				States, 1931			
United States				Alabama.....	10	17,300	17,300
1931.....	396	27,711	17,208	California.....	6	2,267	2,220
1929.....	690	40,338	25,592	Delaware.....	20	7,413	7,413
1927.....	425	67,209	41,925	Illinois.....	8	145	145
1925.....	375	18,241	10,961	Indiana.....	15	2,815	2,815
States, 1931				Kansas.....	24	2,690	2,450
California.....	53	4,759	2,622	Kentucky.....	24	520	520
Connecticut.....	11	469	345	Louisiana.....	2	310	310
Delaware.....	64	1,565	1,048	Maryland.....	14	5,742	5,742
Florida.....	21	754	376	Michigan.....	2	3,638	2,762
Illinois.....	4	306	242	New Jersey.....	1	743	743
Indiana.....	2	25	18	New York.....	31	17,261	15,933
Iowa.....	1	1,200	800	Oregon.....	3	520	520
Maine.....	11	5,217	2,466	Pennsylvania.....	136	44,167	44,167
Maryland.....	14	5,561	4,086	Texas.....	1	65	55
Massachusetts.....	14	633	390	Virginia.....	6	877	877
Michigan.....	19	739	493	Washington.....	14	739	739
Minnesota.....	4	352	312	West Virginia.....	8	9,730	530
Mississippi.....	4	82	36	Wisconsin.....	7	10,282	2,112

¹ Includes 11,574 tons reported as displacement tonnage.

² Includes 2,000 tons reported as displacement tonnage.

³ Displacement tonnage.

⁴ Includes 67 tons reported as displacement tonnage.

⁵ Includes 190 tons reported as displacement tonnage.

⁶ Includes 660 tons reported as displacement tonnage.

⁷ Includes 510 tons reported as displacement tonnage.

⁸ Includes 65 tons reported as displacement tonnage.

⁹ Includes 9,200 tons reported as displacement tonnage.

¹⁰ Includes 1,170 tons reported as displacement tonnage.

TABLE 6.—NUMBER OF POWER BOATS BUILT (LESS THAN 5 GROSS TONS), FOR THE UNITED STATES, 1925 TO 1931, AND FOR STATES, 1931

	Number		Number		Number
<i>United States</i>		<i>States, 1931—Con.</i>		<i>States, 1931—Con.</i>	
1931.....	6, 214	Illinois.....	36	New York.....	1, 089
1929.....	14, 930	Indiana.....	23	Ohio.....	706
1927.....	2, 466	Louisiana.....	30	Oregon.....	8
1925.....	1, 369	Maine.....	414	Pennsylvania.....	41
<i>States, 1931</i>		Maryland.....	4	Rhode Island.....	2
Alabama.....	40	Massachusetts.....	78	Texas.....	60
California.....	110	Michigan.....	2, 041	Virginia.....	2
Connecticut.....	16	Minnesota.....	415	Washington.....	117
Delaware.....	24	Missouri.....	20	Wisconsin.....	774
Florida.....	15	New Jersey.....	149		

GROUP 15.—RAILROAD REPAIR SHOPS

THE GROUP AS A WHOLE

This group comprises only two industries, "Railroad Repair Shops, Electric" (formerly "Car and General Construction and Repairs, Electric Railroad Repair Shops") and "Railroad Repair Shops, Steam" (formerly "Car and General Construction and Repairs, Steam Railroad Repair Shops").

Summary statistics for the group as a whole are presented in the table below, and the detailed reports for the two industries follow on pages 1067 to 1074.

SUMMARY FOR GROUP 15.—RAILROAD REPAIR SHOPS: 1921 TO 1931

INDUSTRY	Cen- sus year	Num- ber of estab- lish- ments	Wage earners (average for the year)	Wages	Cost of mate- rials, con- tainers, fuel, and pur- chased electric energy	Value of products	Value added by manufac- ture ¹
Total for the group....	1931	2,167	309,034	\$435,247,970	\$298,823,638	\$740,762,962	\$441,939,324
	1929	2,297	398,156	637,311,434	548,343,565	1,269,916,839	721,573,274
	1927	2,309	428,672	648,908,452	545,491,754	1,289,695,158	744,203,404
	1925	2,363	457,755	668,191,768	563,645,944	1,332,679,079	769,033,135
	1923	2,348	523,430	772,968,122	631,358,483	1,520,992,751	888,734,268
	1921	2,326	418,285	671,955,829	506,671,099	1,267,342,559	760,771,460
Railroad repair shops, elec- tric.	1931	384	26,629	38,854,148	22,118,657	61,840,620	39,721,963
	1929	446	29,475	47,108,710	32,781,113	85,481,577	52,700,464
	1927	515	31,584	48,391,897	30,421,479	84,504,448	54,082,969
	1925	521	32,521	48,357,386	29,738,148	83,612,220	54,074,072
	1923	547	34,925	49,225,583	31,081,650	86,412,045	54,450,995
	1921	560	33,279	47,775,235	33,560,133	87,312,426	53,752,293
Railroad repair shops, steam.	1931	1,783	282,405	396,393,822	276,704,981	678,922,342	402,217,361
	1929	1,851	368,681	590,202,724	515,562,452	1,184,435,262	668,872,810
	1927	1,794	397,088	600,516,555	515,070,275	1,205,190,710	690,120,435
	1925	1,842	425,234	619,834,382	533,907,796	1,248,866,859	714,859,083
	1923	1,801	488,505	723,742,539	599,376,833	1,433,680,106	834,393,273
	1921	1,766	385,066	624,180,594	473,010,966	1,180,030,133	707,019,167

¹ Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

RAILROAD REPAIR SHOPS, ELECTRIC

Description of the industry.—Repair shops maintained by electric-railroad companies for the purpose of making repairs on rolling stock and equipment are classified under the industry designation "Railroad Repair Shops, Electric."

Value of products.—The "Value of products" shown for this industry represents, in general, the cost of materials plus the amounts of salaries and wages paid to shop employees.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments reporting less than \$5,000 as "Value of products" are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 34, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in this industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931-----	384	26,629	\$38,854,148	\$22,118,857	\$61,840,620	\$39,721,963
1929-----	446	29,475	47,108,710	32,781,113	85,481,577	52,700,464
1927-----	515	31,684	48,391,897	30,421,479	84,504,448	54,082,969
1925-----	521	32,521	48,357,886	29,738,148	83,812,220	54,074,072
1923-----	547	34,925	49,225,683	31,981,650	86,412,645	54,430,995
1921-----	560	33,279	47,775,235	33,590,133	87,312,426	53,752,293
1919-----	624	31,272	39,073,154	32,025,484	75,219,701	43,185,217
1914-----	649	26,384	18,644,845	17,609,574	38,576,565	20,966,991
1909-----	541	22,418	14,486,069	15,167,599	31,962,561	16,794,662
1904-----	86	11,062	7,012,798	5,463,360	13,437,121	7,973,761
1899-----	108	7,025	4,404,593	4,336,744	9,370,811	5,034,067
Percent of increase or decrease (—):						
1929-31-----	-13.9	-9.7	-17.5	-32.5	-27.7	-24.6
1927-29-----	-13.4	-6.7	-2.7	7.8	1.2	-2.6
1925-27-----	-1.2	-2.9	.1	2.3	.8	(³)
1923-25-----	-4.8	-6.9	-1.8	-7.0	-3.0	-7
1921-23-----	-2.3	4.9	3.0	-4.7	-1.0	1.3
1919-21-----	-10.3	6.4	22.3	4.8	16.1	24.5
1921-31-----	-31.4	-20.0	-18.7	-34.1	-29.2	-26.1
1919-29-----	-28.5	-5.7	20.6	2.4	13.7	22.0
1909-19-----	15.3	39.5	169.7	111.1	135.3	157.1
1899-1909-----	400.9	219.1	228.9	249.8	241.1	233.6
<i>States, 1931</i>						
Arkansas-----	4	36	\$45,034	\$10,879	\$55,913	\$45,034
California-----	19	2,486	3,713,270	1,250,721	4,969,587	3,718,860
Illinois-----	24	3,019	4,806,487	2,208,666	7,092,071	4,883,405
Indiana-----	22	879	1,123,753	614,901	1,853,056	1,238,155
Iowa-----	9	161	170,518	108,421	250,111	171,090
Kansas-----	5	63	60,015	57,851	117,566	60,015
Maine-----	8	116	130,860	85,676	217,336	131,660
Massachusetts-----	16	1,080	1,823,395	932,735	2,856,253	1,623,518
New Jersey-----	27	1,227	1,096,937	497,237	1,647,224	1,149,987
New York-----	34	7,272	11,873,473	7,260,540	19,237,618	11,977,078

For footnotes, see end of table.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931—Continued

[See note at head of table]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>States, 1931—Continued</i>						
North Carolina.....	7	73	\$82,085	\$51,210	\$136,175	\$84,965
Ohio.....	33	1,170	1,745,458	869,433	2,840,280	1,970,847
Oklahoma.....	7	175	204,830	111,823	317,555	205,732
Pennsylvania.....	32	1,795	2,759,275	1,639,814	4,454,383	2,815,069
Texas.....	9	445	571,815	448,926	1,075,924	620,068
Utah.....	3	80	96,867	90,374	196,241	90,807
Virginia.....	10	195	217,206	127,260	353,103	225,843
Washington.....	10	331	547,103	317,645	882,290	564,501
Other States.....	106	6,026	7,785,767	5,426,045	13,257,718	7,831,673

¹ See "Value of products," p. 1067.² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.³ Less than one-tenth of 1 percent.⁴ Alabama, 7 establishments; Arizona, 1; Colorado, 5; Connecticut, 7; Delaware, 1; District of Columbia, 2; Florida, 5; Georgia, 5; Kentucky, 4; Louisiana, 4; Maryland, 12; Minnesota, 4; Mississippi, 3; Missouri, 6; Montana, 3; Nebraska, 2; New Hampshire, 1; North Dakota, 2; Oregon, 2; Rhode Island, 2; South Carolina, 2; Tennessee, 6; West Virginia, 8; Wisconsin, 8.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States													
1931	26,629	28,383	28,133	28,018	27,579	27,131	26,411	26,090	25,659	25,684	25,505	25,535	25,416
1929	29,475	29,880	29,498	29,522	29,272	29,072	29,029	29,654	29,829	29,818	29,833	29,356	28,954
1925	32,521	32,943	32,993	33,139	33,026	32,885	32,989	32,502	32,058	31,894	31,898	31,984	31,960
1919	31,272	31,499	31,702	31,686	31,332	30,937	30,229	30,896	30,799	30,900	31,598	31,774	31,894
1914	26,384	26,267	26,709	26,869	26,880	26,919	26,745	26,870	26,694	26,336	25,945	25,139	25,135
1909	22,418	21,822	22,005	22,162	22,198	22,280	22,325	22,273	22,411	22,857	22,869	22,825	22,898
States, 1931													
Arkansas	36	36	36	36	36	36	36	36	36	36	36	36	36
California	2,486	2,743	2,683	2,641	2,574	2,531	2,473	2,397	2,383	2,353	2,356	2,352	2,546
Illinois	3,019	3,333	3,339	3,357	3,304	3,268	2,874	2,816	2,737	2,791	2,743	2,753	2,874
Indiana	879	926	942	935	907	889	858	857	846	829	828	855	845
Iowa	161	160	165	164	171	173	174	151	148	148	157	159	159
Kansas	63	67	61	60	58	62	64	65	67	65	63	64	63
Maine	116	122	122	122	119	121	120	120	111	112	110	108	110
Massachusetts	1,080	1,103	1,081	1,085	1,087	1,102	1,094	1,090	1,042	1,065	1,066	1,070	1,072
New Jersey	1,227	1,263	1,255	1,253	1,256	1,281	1,278	1,271	1,190	1,213	1,166	1,149	1,154
New York	7,272	7,721	7,594	7,536	7,381	7,235	7,108	7,134	7,096	7,088	7,075	7,161	7,132
North Carolina	73	74	73	73	74	74	73	71	72	73	72	72	72
Ohio	1,170	1,184	1,194	1,187	1,195	1,159	1,193	1,175	1,170	1,177	1,151	1,124	1,124
Oklahoma	175	188	183	177	183	183	173	170	175	175	169	168	166
Pennsylvania	1,795	1,830	1,833	1,909	1,890	1,846	1,838	1,822	1,762	1,723	1,750	1,698	1,659
Texas	445	472	471	473	466	467	454	445	429	424	414	414	419
Utah	80	86	85	87	85	81	84	65	74	74	74	75	81
Virginia	195	192	204	199	209	195	187	190	188	194	199	189	188
Washington	331	350	345	345	344	336	322	316	320	323	329	319	317

TABLE 3.—ELECTRIC-RAILROAD REPAIR SHOPS—DETAILED STATISTICS OF WORK DONE AND PRODUCTS MANUFACTURED, FOR THE UNITED STATES: 1925-31

	1931	1929	1927	1925
Work done and products manufactured:				
Aggregate value.....	\$61,840,620	\$85,481,577	\$84,504,448	\$83,812,220
Motive-power and machinery departments, total.....	\$5,763,278	\$7,343,898	\$6,560,241	\$6,210,757
Repairs to motors, etc.....	\$4,867,032	\$6,183,950	\$6,013,623	\$5,525,622
Work for other corporations.....	\$255,080	\$233,296	\$114,434	\$117,000
Other work and products.....	\$641,166	\$926,652	\$432,184	\$568,135
Car departments, total.....	\$53,294,444	\$74,632,863	\$74,707,206	\$73,177,906
Cars built, ² total.....	\$101,771	\$675,975	\$913,612	\$608,988
Passenger:				
Number.....	24	71	83	45
Value.....	\$120,051	\$659,074	\$811,844	\$574,664
Freight:				
Number.....	(²)	2	3	2
Value.....	(²)	\$4,041	\$14,774	\$9,633
Other:				
Number.....	11	5	15	6
Value.....	\$71,720	\$12,860	\$86,944	\$24,691
Repairs to cars.....	\$45,312,894	\$64,934,402	\$65,952,673	\$65,392,764
Work for other corporations.....	\$957,498	\$1,404,507	\$1,166,277	\$1,216,247
Other work and products.....	\$6,832,281	\$7,617,859	\$6,634,644	\$5,959,907
Bridge and building departments (shop work only), total.....	\$232,512	\$420,905	\$296,057	\$639,610
Repairs and renewals.....	\$176,858	\$260,081	\$290,103	\$608,317
Other work and products.....	\$55,654	\$160,824	\$5,954	\$31,302
Other work done and products manufactured, not reported in detail.....	\$2,550,386	\$3,083,911	\$2,940,944	\$3,783,938

¹ Includes \$216,078 as value of 14 locomotives built; corresponding values for 1927, 1929, and 1931 cannot be given separately without disclosing data for individual establishments.

² Electric-railroad cars are built principally by establishments classified in the "Cars, Electric and Steam Railroad, Not Built in Railroad Repair Shops" industry. The figures given in this table refer only to those built by electric-railroad repair shops.

³ None reported.

RAILROAD REPAIR SHOPS, STEAM

Description of the industry.—Repair shops maintained by steam railroads for the purpose of making repairs on rolling stock and bridges are classified under the designation "Railroad Repair Shops, Steam." The industry does not cover the operation of roundhouses in which incidental repairs are made but no machine-shop work is performed. Locomotives and cars, particularly the latter, are built to some extent in repair shops, but the bulk of the work done in these shops consists in repairing and rebuilding.

Value of products.—The "value of products" shown for the industry represents, in general, the cost of materials plus the amounts of salaries and wages paid to shop employees.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments reporting less than \$5,000 as "Value of products" are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	1,783	282,405	\$396,393,822	\$270,704,981	\$678,922,342	\$402,217,361
1929.....	1,851	368,681	590,202,724	515,562,452	1,184,435,262	668,872,810
1927.....	1,794	397,088	600,516,555	515,070,275	1,205,190,710	690,120,435
1925.....	1,842	425,234	619,834,382	533,907,796	1,248,866,859	714,959,063
1923.....	1,801	458,505	723,742,539	599,376,833	1,433,680,106	834,303,273
1921.....	1,766	385,006	624,150,594	473,010,966	1,180,030,133	707,019,167
1919.....	1,744	484,437	657,617,312	515,803,210	1,279,235,393	763,432,183
1914.....	1,362	339,518	234,505,088	243,828,607	514,041,225	270,212,618
1909.....	1,145	282,174	181,344,296	199,413,412	405,600,727	206,187,315
1904.....	1,140	236,870	142,152,748	151,104,801	304,775,089	158,670,288
1899.....	1,292	173,595	96,006,570	109,472,353	218,113,668	108,641,305
Percent of increase or decrease (—):						
1929-31.....	-3.7	-23.4	-32.8	-46.3	-42.7	-39.9
1927-29.....	3.2	-7.2	-1.7	0.1	-1.7	-3.1
1925-27.....	-2.6	-6.6	-3.1	-3.5	-3.5	-3.5
1923-25.....	2.3	-13.0	-14.4	-10.9	-12.9	-14.3
1921-23.....	2.0	26.9	16.0	26.7	21.5	18.0
1919-21.....	1.3	-20.5	-9.2	-8.3	-7.8	-7.4
1921-31.....	1.0	-28.6	-36.5	-41.5	-42.5	-43.1
1919-29.....	6.1	-23.9	-14.2	(?)	-7.4	-12.4
1909-19.....	52.3	71.7	279.2	158.7	215.4	270.3
1899-1909.....	-11.4	62.5	88.9	82.2	86.0	89.8
<i>States, 1931</i>						
Alabama.....	20	5,107	\$6,718,692	\$2,963,100	\$9,681,792	\$6,718,692
Arkansas.....	16	2,621	3,691,583	2,883,442	6,575,025	3,691,583
California.....	64	9,411	14,107,589	8,890,717	23,320,826	14,430,109
Colorado.....	27	3,374	4,995,485	2,893,349	7,976,192	5,082,843
Florida.....	21	2,670	3,540,543	2,447,788	6,143,448	3,695,660
Georgia.....	30	5,476	6,894,417	5,258,684	12,169,172	6,910,488
Illinois.....	137	22,402	32,453,865	21,718,885	54,392,110	32,673,225
Indiana.....	76	10,596	14,743,847	9,942,127	24,811,355	14,869,228
Iowa.....	58	6,837	10,629,235	5,118,239	15,863,782	10,745,543
Kansas.....	41	7,335	10,148,516	6,888,053	17,429,846	10,541,793

For footnotes, see end of table.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931—Continued

(See note at head of table)

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>States, 1931—Continued</i>						
Kentucky.....	29	9,561	\$13,615,137	\$6,926,268	\$20,543,789	\$13,617,521
Louisiana.....	24	2,858	3,756,813	2,440,004	6,208,922	3,768,918
Maryland.....	20	5,429	7,107,469	6,718,850	15,067,117	8,348,267
Massachusetts.....	17	2,994	4,041,012	4,019,910	8,060,922	4,041,012
Michigan.....	44	4,784	6,081,334	3,826,043	10,009,394	6,183,351
Minnesota.....	57	9,624	11,698,605	7,958,309	19,869,843	11,911,534
Mississippi.....	18	1,813	2,676,268	1,709,824	4,386,315	2,676,491
Missouri.....	57	7,636	11,295,256	6,491,625	17,789,219	11,297,594
Montana.....	23	2,613	3,638,805	2,033,312	5,674,110	3,640,798
Nebraska.....	29	3,631	5,355,952	3,449,870	8,819,948	5,370,078
Nevada.....	16	853	1,427,949	916,658	2,427,153	1,510,195
New Jersey.....	29	5,929	9,558,302	4,279,091	13,837,393	9,558,302
New York.....	135	16,671	25,597,090	17,125,267	42,790,502	25,665,235
North Carolina.....	16	3,355	4,495,952	3,545,214	8,043,060	4,497,852
North Dakota.....	18	951	1,544,150	761,500	2,305,650	1,544,150
Ohio.....	138	20,074	28,964,856	19,782,671	48,944,340	29,161,669
Oklahoma.....	23	1,648	2,381,936	1,414,090	3,798,139	2,384,049
Pennsylvania.....	189	45,891	61,717,487	54,723,048	117,281,864	62,558,816
South Dakota.....	14	587	932,769	314,734	1,256,185	941,451
Tennessee.....	22	6,307	8,882,222	5,676,712	14,558,934	8,882,222
Texas.....	98	10,865	14,777,447	11,153,046	25,943,972	14,790,326
Utah.....	11	1,611	2,437,475	1,408,385	3,922,678	2,614,293
Vermont.....	5	770	980,840	485,861	1,466,701	980,840
Virginia.....	38	10,140	13,432,026	11,730,660	25,162,686	13,432,026
Washington.....	29	3,811	4,863,621	4,586,182	9,847,364	5,201,182
West Virginia.....	47	7,455	10,035,486	5,280,484	15,381,162	10,100,615
Wisconsin.....	46	6,073	7,753,264	5,776,244	13,739,765	7,963,521
Other States ³	101	12,742	19,330,527	13,165,835	33,421,721	20,265,886

¹ See "Value of products," p. 1070.² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.³ Less than one-tenth of 1 percent decrease.⁴ Arizona, 14 establishments; Connecticut, 8; Delaware, 5; District of Columbia, 2; Idaho, 9; Maine, 9; New Hampshire, 2; New Mexico, 9; Oregon, 18; Rhode Island, 2; South Carolina, 10; Wyoming, 13.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures, and that of minimum employment by *italic* figures. See sec. 13, p. 6.]

	Average number employed during year	NUMBER REPORTED FOR—											
		January	February	March	April	May	June	July	August	September	October	November	December
		United States											
1931.....	282,405	306,676	303,952	300,736	296,935	292,669	283,710	280,535	276,949	267,942	266,241	259,676	252,847
1929.....	368,681	370,601	373,390	373,051	370,205	368,848	368,102	366,874	367,010	367,886	366,753	367,533	360,884
1925.....	425,284	438,141	438,308	434,680	427,036	419,800	420,897	420,062	416,967	417,119	421,134	423,527	425,441
1919.....	484,437	487,141	484,047	477,266	467,036	466,966	464,919	475,570	480,705	468,057	502,119	507,017	531,134
1914.....	339,518	343,360	340,925	340,933	338,423	332,026	332,735	343,576	345,275	347,631	345,105	338,300	311,134
1909.....	282,174	278,795	273,678	273,622	269,502	268,700	272,165	276,061	284,253	292,042	296,302	293,381	301,535
States, 1931													
Alabama.....	5,107	5,557	5,545	5,449	5,297	5,219	5,079	5,074	5,004	4,934	4,893	4,792	4,414
Arkansas.....	2,621	2,897	2,874	2,933	2,802	2,813	2,610	2,788	2,635	2,587	2,437	2,094	1,910
California.....	9,411	9,893	9,767	9,923	9,821	9,611	9,023	9,110	9,213	9,104	9,201	9,123	8,972
Colorado.....	3,374	3,773	3,759	3,745	3,687	3,608	3,468	3,177	3,113	3,075	3,051	2,916	2,617
Florida.....	2,670	2,958	3,013	3,081	2,912	2,647	2,627	2,577	2,511	2,405	2,488	2,398	2,428
Georgia.....	5,476	6,082	6,004	5,738	5,453	5,482	5,416	5,367	5,360	5,319	5,241	5,166	5,116
Illinois.....	22,402	25,287	24,307	23,965	23,815	23,432	23,325	22,918	22,600	20,798	20,241	19,262	18,556
Indiana.....	10,506	12,800	11,859	11,584	11,800	11,375	10,262	10,280	9,957	9,490	10,098	9,579	8,094
Iowa.....	6,837	7,584	7,428	7,358	7,358	6,985	6,645	6,668	6,911	6,492	6,405	6,067	5,804
Kansas.....	7,535	7,538	7,532	7,477	7,504	7,402	7,441	7,566	7,435	6,717	7,242	7,145	7,017
Kentucky.....	9,561	10,073	10,111	10,062	9,828	9,859	9,811	9,755	9,853	9,619	9,807	9,627	8,270
Louisiana.....	2,858	3,006	2,915	2,977	2,933	2,918	2,909	2,824	2,841	2,793	2,793	2,749	2,608
Maryland.....	5,420	6,449	6,432	6,448	6,449	6,230	5,780	5,922	5,840	5,823	5,890	5,873	5,695
Massachusetts.....	2,904	3,445	3,433	3,494	3,010	3,089	2,850	2,546	2,601	2,831	3,008	3,025	2,925
Michigan.....	4,784	5,449	5,062	4,942	4,990	4,905	4,846	4,753	4,419	4,925	4,673	4,539	4,472
Minnesota.....	9,624	10,530	10,489	10,238	10,296	10,081	9,612	9,526	9,402	8,624	8,954	8,859	8,741
Mississippi.....	1,813	1,820	1,836	1,865	1,866	1,895	1,923	1,931	1,941	1,952	1,930	1,917	1,891
Missouri.....	7,636	8,504	8,302	8,353	8,004	7,756	7,552	7,628	7,648	7,489	7,229	7,035	6,890
Montana.....	2,613	2,901	2,949	2,807	2,811	2,805	2,854	2,577	2,461	2,452	2,309	2,299	2,282
Nebraska.....	3,631	4,060	4,064	4,020	3,953	3,947	3,885	3,898	3,799	3,627	3,558	3,493	3,261
Nevada.....	853	993	984	962	933	885	795	784	791	779	786	791	759
New Jersey.....	6,892	6,600	6,600	6,896	5,061	6,010	5,685	5,607	5,460	5,961	5,888	5,680	5,559
New York.....	16,671	18,589	18,102	17,852	17,336	17,207	16,010	16,010	15,348	16,500	15,792	15,780	15,546
North Carolina.....	3,356	3,624	3,825	3,470	3,314	3,335	3,297	3,408	3,360	3,560	3,244	3,287	3,230
North Dakota.....	961	1,074	1,080	1,071	1,025	998	953	940	885	872	854	828	844

Ohio.....	20,074	21,107	21,100	21,011	20,052	20,242	20,183	19,764	19,041	19,220	18,712	17,690
Oklahoma.....	1,548	1,680	1,653	1,670	1,804	1,604	1,668	1,613	1,504	1,614	1,618	1,692
Pennsylvania.....	45,597	48,859	48,318	48,125	47,519	45,900	45,676	44,827	44,198	43,235	42,065	43,152
South Dakota.....	6,887	6,616	6,622	6,608	6,890	6,544	6,412	6,454	5,878	5,894	5,768	5,659
Tennessee.....	6,307	6,653	6,615	6,408	6,890	6,544	6,412	6,454	5,878	5,894	5,768	5,659
Texas.....	10,865	11,336	11,303	11,192	11,022	11,021	10,818	10,923	10,409	10,353	10,285	10,255
Utah.....	1,511	1,772	1,760	1,685	1,684	1,497	1,477	1,306	1,288	1,345	1,288	1,463
Vermont.....	10,770	10,821	10,789	10,780	10,771	10,764	10,700	10,772	10,782	10,732	10,719	10,751
Virginia.....	10,140	10,322	10,332	10,330	10,128	10,287	10,298	10,066	10,197	9,930	9,844	8,802
Washington.....	3,811	4,131	4,132	4,142	3,894	3,702	3,545	3,612	3,503	3,636	3,626	3,583
West Virginia.....	8,204	8,147	8,090	7,991	7,259	7,204	7,217	7,234	7,503	6,989	7,020	7,043
Wisconsin.....	6,073	7,008	7,126	6,900	6,679	6,320	5,574	5,509	4,798	5,476	5,389	4,961

TABLE 3.—STEAM-RAILROAD REPAIR SHOPS—DETAILED STATISTICS OF WORK DONE AND PRODUCTS MANUFACTURED, FOR THE UNITED STATES: 1925 TO 1931

CLASS	1931	1929	1927	1925
Work done and products manufactured: Aggregate value.....	\$678,922,342	\$1,184,435,262	\$1,205,190,710	\$1,248,866,359
Motive-power and machinery departments, total.....	\$362,441,205	\$592,292,798	\$603,669,975	\$622,344,078
Locomotives built: ¹				
Number ²	27	70	97	119
Value.....	\$2,760,110	\$3,164,413	\$5,172,444	\$4,061,453
Repairs to locomotives, etc.....	\$297,739,185	\$431,924,697	\$452,436,474	\$469,035,512
Work for other corporations.....	\$0,506,023	\$10,492,867	\$10,276,138	\$10,257,608
Other work and products.....	\$85,435,887	\$146,710,821	\$135,984,919	\$138,989,605
Car departments, total.....	\$282,430,589	\$534,966,422	\$522,599,245	\$540,763,100
Cars built, total ³	\$5,562,022	\$22,947,182	\$21,600,662	\$6,908,335
Passenger:				
Number.....	1	83	⁴ 56	10
Value.....	\$5,552	\$1,461,619	⁴ \$1,030,564	\$207,279
Freight:				
Number.....	2,746	12,547	⁴ 10,304	3,351
Value.....	\$5,418,696	\$20,868,190	⁴ \$20,034,708	\$5,912,283
Other:				
Number.....	95	45	202	282
Value.....	\$137,774	\$617,373	\$535,390	\$788,773
Repairs to cars.....	\$228,763,365	\$433,930,278	\$414,878,583	\$451,813,926
Work for other corporations.....	\$8,423,656	\$14,237,121	\$17,567,536	\$19,104,030
Other work and products.....	\$39,681,546	\$63,851,841	\$68,552,464	\$62,929,809
Bridge and building departments (shop work only), total.....	\$2,416,730	\$4,239,863	\$4,927,601	\$5,310,408
Repairs and renewals.....	\$2,041,495	\$3,366,513	\$4,232,760	\$4,774,126
Work for other corporations.....	\$10,796	\$18,502	\$43,329	\$50,206
Other work and products.....	\$364,448	\$854,848	\$651,412	\$482,076
Other work done and products manufactured, not reported in detail.....	\$31,633,809	\$52,936,179	\$73,793,989	\$80,453,273

¹ The figures given in this table refer only to locomotives built in steam-railroad repair shops. Steam and internal-combustion locomotives are built principally by establishments classified in the Locomotives (Other Than Electric), Not Made in Railroad Repair Shops industry; and electric locomotives are built principally by establishments classified in the Electrical Machinery, Apparatus, and Supplies industry.

² The figure for 1931 includes data for 6 electric locomotives; that for 1929, 2; that for 1927, 10. The values of these locomotives are included in the corresponding value items but are not given separately in order to avoid disclosing data reported by individual establishments.

³ The figures given in this table refer only to cars built in steam-railroad repair shops. Railroad cars are built principally in the Cars, Electric and Steam Railroad, not Built in Railroad Repair Shops industry. Tables 3 and 4 of the report for that industry show the total production of cars both in the industry proper and in railroad repair shops.

⁴ Revised.

Group 16.—MISCELLANEOUS INDUSTRIES

THE GROUP AS A WHOLE

Some of the industries in this group cannot be properly classified in any of the other groupings because of the varied character of materials used, and others because of the peculiar nature or use of the products made. To a large extent the industries in Group 16 are those which use as their materials the products of certain industries in other groups. This group includes a few industries, however, which use strictly raw materials, such as tobacco for the manufacture of cigars, cigarettes, and other tobacco products; bone and shell for making buttons, hairpins, and fancy articles; broomcorn for brooms; straw for straw hats; and sand for foundry supplies.

Group 16 includes also a class of industries whose manufacturing operations consist principally in processes or treatments which prepare commodities for the trade or the market but produce little change in their character. These industries include "Feathers, Plumes, and Manufactures Thereof," "Furs, Dressed," "Hair Work," and "Lapidary Work."

This group differs somewhat from the corresponding one as constituted at the census for 1929, the changes being as follows:

(1) The former "Dairymen's Supplies; Creamery, Cheese Factory, and Butter Factory Equipment; and Poultrymen's and Apiarists' Supplies" industry in Group 16 has been abandoned as a separate classification. (See footnote 7, p. 1080.)

(2) The "Motion Pictures, Not Including Projection in Theaters" industry, formerly included in this group, has been abandoned as a manufacturing industry and is now placed in the same category with "Power Laundries" and "Dry-Cleaning and Redyeing Establishments." These are treated as nonmanufacturing industries, but they are canvassed in connection with the censuses of manufactures and reports for them are published separately in pamphlet form.

(3) The former Phonographs industry in Group 16 has been combined with the manufacture of radio apparatus, formerly included in the Electrical Machinery, Apparatus, and Supplies industry (Group 13) under the title "Radio Apparatus and Phonographs," in Group 13.

(4) The former "Sandpaper, Emery Paper, and Other Abrasive Paper and Cloth" industry in Group 16 has been combined with "Emery Wheels and Other Abrasive and Polishing Appliances" and "Hones, Whetstones, and Similar Products" (Group 10) under the title "Abrasive Wheels, Stones, Paper, and Cloth, and Related Products," in Group 10.

(5) The former Whips industry in Group 16 has been combined with the Saddlery and Harness industry under the new title "Saddlery, Harness, and Whips," in Group 9.

Summary statistics for the group, by industries, are given in the table beginning on page 1076; and detailed reports for the individual industries are presented on pages 1081 to 1175.

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1921 TO 1931

INDUSTRY	Cen- sus year	Num- ber of estab- lish- ments	Wage earners (aver- age for the year)	Wages	Cost of ma- terials, con- tainers, fuel, and purchased electric energy	Value of products	Value added by manu- facture ¹
Aggregate for the group ²	1931	11,758	300,696	\$303,015,191	\$858,553,250	\$2,312,634,671	\$1,454,081,421
	1929	14,612	417,410	500,533,958	1,359,280,203	3,426,094,916	2,066,814,712
	1927	14,313	440,566	529,586,690	1,377,984,712	3,316,779,856	1,938,795,144
	1925	14,207	439,400	508,676,891	1,351,477,979	3,125,010,901	1,773,532,922
	1923	15,427	475,281	528,204,624	1,420,233,841	3,002,855,153	1,673,621,312
	1921	15,748	417,929	441,859,579	1,315,179,761	2,556,936,657	1,241,766,596
Musical instruments, ³ total.	1931	230	10,003	11,151,664	10,762,421	32,206,671	21,444,250
	1929	316	18,625	25,782,387	30,030,326	79,981,287	49,950,961
	1927	371	28,769	40,585,227	52,691,020	131,065,983	78,374,963
	1925	393	35,713	48,356,886	73,013,403	170,629,405	96,716,002
	1923	424	37,838	50,426,166	78,349,702	175,220,263	96,870,561
	1921	446	27,176	32,719,764	53,930,098	114,775,980	60,845,882
Organs	1931	42	1,460	1,763,270	1,626,948	5,710,028	4,083,060
	1929	62	2,389	3,603,631	3,090,676	11,322,736	8,232,060
	1927	63	2,770	4,363,731	4,494,449	15,438,623	10,944,174
	1925	57	2,460	3,603,586	3,748,042	12,283,089	8,534,147
	1923	59	1,855	2,661,804	2,802,566	9,602,692	6,800,126
	1921	56	2,340	3,342,795	3,730,917	10,184,854	6,453,937
Pianos	1931	50	4,737	5,156,909	5,892,230	15,293,048	9,400,818
	1929	81	9,970	14,000,826	18,866,437	42,501,375	23,634,938
	1927	124	16,582	23,890,846	33,898,668	75,490,681	41,592,013
	1925	142	20,079	28,096,207	40,295,643	101,180,777	51,835,134
	1923	160	22,208	30,079,198	54,178,803	111,159,308	56,980,595
	1921	185	15,536	18,887,126	38,551,996	73,639,912	34,957,916
Piano and organ parts and materials.	1931	50	1,213	1,178,187	1,004,845	3,089,883	2,085,035
	1929	67	3,090	3,597,210	4,247,919	11,883,098	7,635,179
	1927	85	5,399	6,593,645	9,657,350	22,244,731	12,587,381
	1925	94	8,618	10,131,137	15,293,635	36,836,238	21,542,603
	1923	99	9,672	11,243,188	17,019,395	38,838,735	21,819,340
	1921	89	5,569	5,969,804	8,221,840	18,597,436	10,375,596
Musical instruments and parts and materials, not elsewhere classified.	1931	88	2,593	3,053,298	2,238,398	8,113,712	5,875,314
	1929	106	3,176	4,580,720	3,825,294	14,274,078	10,448,784
	1927	99	4,018	5,737,005	4,640,553	17,891,948	13,251,395
	1925	100	4,556	6,619,956	5,575,183	20,329,301	14,754,118
	1923	106	4,103	5,841,976	4,345,938	15,619,435	11,270,500
	1921	116	3,424	4,520,029	3,325,345	12,353,778	9,028,433
Tobacco manufac- tures, total.	1931	1,228	99,769	69,411,167	* 785,502,241	1,156,851,190	* 370,348,949
	1929	1,788	116,119	94,578,749	429,272,352	1,246,241,839	(9)
	1927	2,156	129,299	105,260,631	420,666,513	1,163,768,379	(9)
	1925	2,623	132,132	111,558,170	425,769,266	1,001,000,981	(9)
	1923	3,672	146,337	120,462,233	515,864,980	1,044,192,405	(9)
	1921	4,372	149,985	120,908,492	608,688,363	1,048,489,697	(9)
Cigars and cigarettes	1931	1,103	88,328	60,737,888	* 674,343,984	986,738,067	* 312,394,063
	1929	1,636	105,308	85,623,298	356,778,023	1,066,908,888	(9)
	1927	1,997	116,174	94,589,211	335,356,075	965,623,702	(9)
	1925	2,445	117,108	99,373,421	331,350,626	874,814,564	(9)
	1923	3,466	130,036	107,723,504	369,491,293	821,226,819	(9)
	1921	4,146	133,357	108,161,040	452,211,828	806,748,865	(9)
Tobacco: Chewing and smoking, and snuff.	1931	125	11,441	8,673,479	* 111,158,257	169,113,123	* 57,954,566
	1929	152	10,811	8,955,451	72,494,329	179,332,951	(9)
	1927	159	13,125	10,661,420	85,310,438	198,244,677	(9)
	1925	178	15,024	12,184,749	94,418,640	216,186,417	(9)
	1923	206	16,301	12,738,729	146,373,777	222,965,586	(9)
	1921	226	16,628	12,742,452	156,476,535	241,740,732	(9)
Other industries, ³ total.	1931	10,300	190,924	222,667,360	484,315,164	1,124,576,810	640,261,648
	1929	12,508	282,666	380,172,822	899,977,525	2,090,871,789	1,199,894,264
	1927	17,786	282,298	383,750,832	904,627,179	2,021,945,494	1,117,313,315
	1925	11,191	271,555	348,761,835	851,795,310	1,883,380,515	1,011,685,265
	1923	11,331	291,106	357,316,225	835,019,159	1,783,442,485	948,423,530
	1921	10,930	240,769	288,236,333	652,661,300	1,393,671,080	741,109,789
Artificial and preserved flowers and plants.	1931	158	2,348	2,139,643	3,415,284	9,035,476	5,620,162
	1929	191	3,216	3,217,642	5,627,451	14,425,420	8,897,969
	1927	190	4,713	5,050,438	7,898,833	19,576,337	11,687,504
	1925	187	4,305	4,280,061	7,264,858	17,823,841	10,558,983
	1923	223	4,696	4,601,701	8,692,238	19,649,862	10,957,624
	1921	201	3,883	3,820,652	5,849,789	14,188,221	8,338,452

For footnotes, see p. 1080.

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1921 TO 1931—Con.

INDUSTRY	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
Artists' materials.....	1931	65	838	\$890,840	\$2,136,652	\$5,822,597	\$3,685,745
	1929	68	1,167	1,428,728	4,155,317	9,459,565	5,304,248
	1927	61	1,211	1,429,983	3,771,503	8,204,521	4,433,018
	1925	62	1,317	1,567,746	3,802,420	8,320,776	4,518,356
	1923	61	1,411	1,747,175	4,355,150	8,638,744	4,283,594
	1921	55	1,008	1,198,814	3,989,642	6,059,766	2,970,124
Brooms.....	1931	334	4,086	3,325,998	6,264,020	13,134,907	6,870,887
	1929	407	4,542	4,109,087	9,647,688	19,166,353	9,518,665
	1927	394	4,450	4,274,688	9,175,710	18,444,912	9,269,202
	1925	421	4,725	4,653,656	11,213,881	21,714,194	10,500,813
	1923	444	4,730	4,481,645	14,932,827	20,261,834	11,329,007
	1921	450	4,302	3,871,895	10,417,147	18,188,376	7,771,229
Brushes, other than rubber.	1931	264	5,891	5,991,850	14,227,575	30,827,087	16,599,512
	1929	303	7,261	7,962,538	21,688,253	45,549,270	23,861,017
	1927	302	7,673	8,244,032	22,553,058	47,844,124	25,291,066
	1925	302	7,836	8,452,206	22,021,444	45,824,215	23,802,771
	1923	306	8,719	9,208,272	25,569,661	50,511,239	24,941,578
	1921	277	6,490	6,415,340	18,664,652	35,544,514	16,879,562
Buttons.....	1931	212	8,224	6,661,117	8,303,222	21,524,572	13,221,350
	1929	242	9,034	8,813,927	11,591,401	28,977,919	17,476,518
	1927	229	9,642	9,435,821	11,237,579	29,130,168	17,892,589
	1925	289	11,513	10,893,176	12,372,646	32,458,435	20,085,789
	1923	336	11,860	11,229,008	13,199,582	32,750,190	19,550,606
	1921	346	9,686	8,511,449	10,405,511	26,533,891	16,128,380
Carbon paper and inked ribbons. ⁴	1931	54	1,198	1,462,688	6,033,738	13,475,518	7,441,780
	1929	57	1,251	1,702,358	7,990,753	17,295,140	9,304,387
	1927	49	1,078	1,514,230	6,019,768	13,793,128	7,773,370
Combs and hairpins, not made from metal or rubber.	1931	23	653	571,112	837,101	1,916,641	1,079,540
	1929	24	656	640,857	1,004,824	2,482,419	1,475,595
	1927	36	1,259	1,249,064	1,873,003	4,436,656	2,563,653
	1925	44	1,300	1,292,923	2,333,755	5,270,208	2,936,463
	1923	42	2,144	2,266,594	4,583,022	8,770,153	4,187,131
	1921	38	1,321	1,276,799	2,172,287	4,580,368	2,408,081
Dairymen's supplies; creamery, cheese-factory and butter-factory equipment; and poultrymen's and apiarists' supplies. ⁷	1929	172	5,450	6,925,320	16,371,116	42,246,758	25,875,642
	1927	152	5,091	6,373,561	15,694,293	36,823,648	21,137,355
	1925	180	4,844	5,863,844	15,421,233	37,623,376	21,842,143
	1923	192	5,783	6,642,711	17,586,864	39,463,324	21,876,460
	1921	180	3,841	4,414,031	13,084,780	27,644,471	14,559,691
Dentists' supplies and equipment, except instruments. ⁸	1931	84	3,874	3,948,762	9,362,441	24,005,221	14,642,780
	1929	87	4,559	5,359,432	17,326,748	35,180,165	17,853,417
	1927	97	3,759	3,941,280	18,188,584	32,348,979	14,160,395
Feathers, plumes, and manufactures thereof.	1931	53	527	550,053	588,029	1,897,656	1,309,627
	1929	39	257	308,693	386,356	1,141,418	755,062
	1927	38	322	396,683	534,149	1,438,441	904,292
	1925	70	888	970,394	1,880,708	4,179,063	2,298,355
	1923	131	1,712	1,968,327	3,399,735	7,866,492	4,466,757
	1921	135	2,064	2,145,013	4,298,325	8,886,540	4,588,215
Foundry supplies.....	1931	52	428	491,592	2,080,108	3,998,401	1,918,293
	1929	59	858	1,255,801	5,534,548	10,458,589	4,924,041
	1927	65	941	1,200,141	6,539,050	11,635,090	5,096,010
	1925	60	1,087	1,360,219	6,903,678	12,723,120	5,819,442
	1923	64	966	1,162,068	4,822,611	10,247,864	5,425,253
	1921	50	567	676,241	2,775,014	4,965,678	2,190,664
Fur goods.....	1931	2,354	12,358	24,792,600	102,634,150	164,749,401	62,115,251
	1929	2,855	15,752	33,829,965	176,106,910	277,562,752	101,455,842
	1927	2,756	10,640	37,670,610	195,322,988	299,615,047	104,292,069
	1925	2,000	10,556	25,164,292	159,315,693	254,365,708	94,950,015
	1923	1,758	14,439	27,923,042	126,162,143	198,042,571	71,880,428
	1921	1,707	12,052	22,421,193	84,536,855	139,365,920	54,829,074
Furs, dressed.....	1931	243	5,160	7,968,066	16,220,722	37,872,653	21,651,931
	1929	248	5,167	8,596,377	18,648,954	40,237,192	21,588,238
	1927	172	5,540	10,360,987	7,071,850	27,680,635	20,068,765
	1925	133	5,056	8,205,892	7,296,408	25,422,603	18,126,255
	1923	162	5,203	8,381,453	7,241,783	25,466,841	18,225,038
	1921	126	4,429	6,788,712	6,070,474	19,157,339	13,066,805

For footnotes, see p. 1080.

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1921 TO 1931—Con.

INDUSTRY	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
Hair work-----	1931	52	267	\$287,642	\$310,574	\$1,184,240	\$873,666
	1929	59	359	432,340	538,479	1,693,588	1,155,109
	1927	69	515	598,034	829,891	2,279,226	1,449,335
	1925	85	864	974,982	3,046,276	6,080,756	3,043,450
	1923	113	1,317	1,352,406	5,568,007	11,263,953	5,695,946
	1921	128	1,222	1,256,198	6,734,188	10,951,844	4,217,656
Hand stamps and stencils and brands.	1931	288	2,496	3,370,835	2,394,753	10,045,366	7,650,613
	1929	332	2,971	4,080,780	3,811,158	15,036,023	11,224,865
	1927	293	2,668	3,841,771	3,733,718	14,155,607	10,421,889
	1925	323	2,930	4,015,323	4,070,322	15,320,554	11,250,232
	1923	255	2,312	3,034,974	3,103,320	11,130,936	8,027,616
	1921	234	2,068	2,657,418	2,785,615	9,079,097	6,293,452
Hats, straw, men's-----	1931	50	2,823	2,784,007	7,253,048	13,592,102	6,639,054
	1929	50	3,380	3,687,570	8,704,621	18,738,994	10,034,373
	1927	48	3,203	4,232,332	11,782,956	21,717,689	9,934,733
Instruments, professional and scientific, and gauges, except machinists' gauges.	1931	270	9,136	11,114,765	10,140,960	40,733,637	30,592,677
	1929	276	16,876	22,682,052	28,411,430	89,746,369	61,334,939
	1927	280	16,414	22,288,973	28,880,222	87,783,488	58,903,266
	1925	233	12,129	16,166,202	20,428,088	76,338,739	55,910,651
	1923	258	12,275	15,502,679	18,030,523	63,074,391	45,034,868
	1921	266	9,384	11,699,950	13,320,311	42,131,845	28,865,534
Jewelry and instrument cases.	1931	92	1,398	1,414,842	1,941,319	4,919,423	2,978,164
	1929	113	2,269	2,472,880	3,324,459	8,826,727	5,502,265
	1927	107	2,406	2,697,056	3,293,986	8,810,065	5,516,079
	1925	125	2,748	2,750,200	3,832,577	10,114,073	6,281,496
	1923	111	2,977	2,904,430	4,417,250	10,506,478	6,089,222
	1921	107	2,241	2,087,591	2,712,684	7,035,778	4,323,694
Lapidary work-----	1931	53	205	339,503	1,378,233	2,474,998	1,096,765
	1929	100	500	1,001,706	8,234,889	11,942,421	3,707,532
	1927	92	547	1,220,647	9,133,059	12,351,503	3,218,444
	1925	83	589	1,284,991	7,272,868	10,122,782	2,849,944
	1923	87	644	1,286,291	5,887,061	9,129,842	3,242,781
	1921	64	399	737,922	2,840,309	4,345,214	1,504,905
Mattresses and bed springs not elsewhere classified.	1931	781	13,622	14,702,335	37,509,418	77,508,242	39,968,824
	1929	951	17,187	22,583,935	61,527,026	123,279,717	61,762,691
	1927	833	13,481	16,286,711	52,182,075	98,834,558	46,652,483
	1925	1,018	14,403	17,429,710	62,489,286	110,716,896	45,227,610
	1923	1,015	14,103	16,472,666	61,476,696	107,561,034	46,634,988
	1921	889	11,748	13,546,457	42,056,162	74,623,076	32,567,614
Miscellaneous articles not elsewhere classified. ¹⁰	1931	709	13,892	13,118,853	22,379,662	55,133,489	32,753,827
	1929	835	19,113	19,465,294 ¹¹	35,657,179	86,649,387	50,992,306
	1927	617	17,259	18,636,262	35,001,678	83,917,773	48,916,093
	1925	561	15,040	15,514,874	29,882,190	71,048,618	41,766,428
	1923	572	14,125	14,376,264	29,652,316	65,649,406	35,997,066
	1921	548	12,208	11,778,208	25,527,802	53,801,868	28,274,066
Models and patterns, not including paper patterns.	1931	649	4,332	7,378,165	2,786,935	16,192,426	13,405,491
	1929	804	6,778	13,233,622	5,814,359	30,621,074	25,306,715
	1927	693	5,584	10,544,694	4,650,266	23,494,992	18,835,728
	1925	689	5,262	9,419,777	4,927,230	22,494,585	17,557,353
	1923	697	5,813	9,765,810	11,187,572	30,164,709	18,977,137
	1921	656	3,936	6,026,634	4,042,100	15,742,112	11,700,012
Motion pictures, not including projection in theaters. ¹¹	1929	142	10,784	24,860,092	38,441,025	184,102,419	145,661,394
	1927	142	8,415	18,637,005	34,867,472	134,343,360	99,478,888
	1925	132	5,573	13,065,756	33,258,368	93,636,348	60,377,860
	1923	97	6,408	16,601,163	30,656,770	86,418,170	55,761,400
	1921	127	6,259	14,740,009	31,190,160	77,397,381	46,207,221
Optical goods-----	1931	102	7,446	8,755,958	7,523,942	27,887,459	20,363,817
	1929	117	9,701	12,633,947	11,859,128	40,562,456	28,703,331
	1927	96	7,596	9,560,725	8,865,025	32,757,210	23,892,153
Paving materials: Blocks (except brick and stone) and mixtures.	1931	97	1,081	1,555,533	8,587,054	16,003,091	7,416,637
	1929	126	2,375	3,730,867	13,588,502	29,275,369	15,686,867

For footnotes, see p. 1080.

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1921 TO 1931—Con.

INDUSTRY	Cen- sus year	Num- ber of estab- lish- ments	Wage earners (aver- age for the year)	Wages	Cost of ma- terials, con- tainers, fuel, and purchased electric energy	Value of products	Value added by manu- facture ¹
Pencils, lead (including mechanical).	1931	26	3,459	\$3,177,315	\$5,202,253	\$13,958,854	\$8,756,601
	1929	38	5,703	6,292,276	10,750,296	27,772,955	17,016,659
	1927	27	5,301	5,942,783	9,931,493	24,409,839	14,568,346
	1925	25	5,636	6,031,305	9,108,525	25,050,757	15,882,232
	1923	20	5,826	5,540,474	8,659,173	24,507,504	15,908,331
	1921	14	5,134	5,034,899	7,259,861	21,382,050	14,122,189
Pens, fountain and stylo- graphic; pen points, gold, steel, and brass.	1931	68	3,945	4,364,216	7,219,257	23,798,701	16,570,444
	1929	76	4,600	5,304,142	11,459,411	34,211,384	22,751,973
	1927	68	4,031	4,734,561	10,374,789	25,645,189	15,270,400
	1925	78	4,203	4,852,547	8,594,651	26,595,734	18,001,083
	1923	73	4,301	4,732,023	9,843,299	23,730,202	14,386,903
	1921	67	3,403	3,729,110	6,424,464	14,976,011	8,551,547
Phonographs ² -----	1929	59	14,416	17,825,855	37,323,137	96,849,048	59,525,911
	1927	60	14,216	20,176,208	37,467,711	95,296,137	57,828,426
	1925	68	11,267	14,144,955	24,847,004	61,057,147	36,210,053
	1923	111	20,491	24,969,685	45,250,327	107,311,265	62,060,938
	1921	154	17,938	21,773,750	41,057,508	98,212,784	57,155,276
Photographic apparatus and materials and pro- jection apparatus.	1931	110	10,609	13,082,078	20,867,793	79,506,499	58,638,706
	1929	115	12,967	20,507,499	30,392,531	102,827,356	72,434,855
	1927	122	12,120	18,310,992	29,230,235	90,827,737	61,807,502
	1925	118	9,154	13,300,259	25,779,218	78,653,651	52,874,433
	1923	111	9,905	13,224,351	19,253,149	71,828,028	52,574,879
	1921	136	10,690	13,771,145	22,835,741	70,595,344	47,759,603
Pipes (tobacco)-----	1931	24	1,677	1,761,888	1,775,548	5,522,316	3,740,768
	1929	24	1,680	1,961,120	1,749,222	5,557,982	3,808,760
	1927	23	1,807	2,278,637	2,722,706	7,273,806	4,551,100
	1925	28	1,970	2,290,709	2,718,135	7,268,595	4,580,460
	1923	30	2,402	2,720,218	3,827,927	9,704,816	5,876,889
	1921	36	1,765	1,937,097	2,825,856	7,123,810	4,297,954
Roofing, built-up and roll; asphalt shingles; roof coatings other than paint.	1931	83	4,123	5,331,030	32,706,052	58,962,919	26,256,867
	1929	102	6,027	8,951,537	61,391,590	103,506,090	42,114,500
	1927	100	7,255	10,712,626	67,327,735	123,210,305	55,882,570
	1925	140	8,310	12,144,764	78,596,627	123,690,811	44,994,184
	1923	122	7,665	10,826,123	55,520,343	84,341,931	28,821,588
	1921	136	6,908	9,213,047	45,013,397	76,193,430	31,150,033
Sandpaper, emery paper, and other abrasive paper and cloth. ¹²	1929	11	1,228	1,739,544	8,375,277	17,218,560	8,843,313
	1927	10	917	1,228,420	5,470,629	12,232,064	6,761,435
	1925	12	1,230	1,713,967	7,341,590	15,622,720	8,281,130
	1923	14	1,176	1,518,528	6,870,410	13,753,079	6,882,669
	1921	12	680	867,585	3,591,851	6,462,025	2,870,174
Signs and advertising novel- ties.	1931	1,078	14,403	18,484,776	21,297,359	74,681,351	53,383,992
	1929	1,239	20,000	27,900,005	35,701,412	118,044,157	82,342,745
	1927	813	10,907	24,044,389	30,892,294	98,481,024	67,588,730
	1925	759	15,128	20,764,187	25,858,149	89,609,343	63,811,194
	1923	648	12,988	16,429,466	22,641,082	67,223,676	44,582,594
	1921	624	10,373	12,703,005	18,734,401	53,270,804	34,536,463
Soda fountains and acces- sories.	1931	47	1,563	2,189,982	5,235,695	14,605,952	9,370,257
	1929	54	2,764	3,921,538	10,489,871	24,509,783	14,019,912
	1927	48	2,838	4,222,944	10,390,971	23,929,008	13,538,097
	1925	60	2,372	3,628,340	8,632,026	22,031,816	13,399,790
	1923	66	2,669	3,779,476	6,712,374	18,169,234	11,456,860
	1921	62	2,144	3,047,981	6,495,791	15,407,131	8,911,340
Sporting and athletic goods, not including firearms or ammunition.	1931	217	10,176	11,219,073	20,098,555	49,257,447	29,158,892
	1929	242	10,793	13,135,484	24,482,236	58,288,728	33,806,492
	1927	188	9,689	11,595,480	19,393,661	44,942,778	25,549,117
	1925	181	8,724	10,262,208	17,874,604	42,629,278	23,764,674
	1923	170	9,683	10,440,207	18,492,511	41,797,075	23,304,564
	1921	162	7,063	7,400,470	15,401,261	31,811,174	16,409,913
Stationery goods not else- where classified.	1931	176	8,614	9,034,028	22,284,705	47,355,397	25,070,692
	1929	203	11,078	12,429,726	32,177,887	74,062,047	41,884,190
	1927	194	8,987	9,791,788	27,016,348	56,987,490	29,971,142
	1925	217	11,399	12,076,257	31,108,376	67,809,267	36,700,891
	1923	225	13,314	14,627,838	34,713,818	77,688,935	42,675,117
	1921	221	11,285	12,399,283	29,605,923	64,596,978	34,691,055

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1921 TO 1931—Con.

INDUSTRY	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of material, containers, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹
Steam and other packing, pipe and boiler covering, and gaskets, not elsewhere classified.	1931	141	4,705	\$5,173,814	\$11,297,358	\$25,400,577	\$14,103,219
	1929	171	7,266	9,660,414	21,596,489	45,433,135	23,836,646
	1927	159	5,946	7,904,603	19,794,205	43,044,501	23,250,296
	1925	172	6,086	8,072,189	20,371,883	43,871,139	23,499,276
	1923	142	5,064	6,431,746	15,849,197	32,991,237	17,142,040
	1921	157	4,877	5,328,783	15,983,691	29,112,457	13,128,766
Surgical and orthopedic appliances and related products.	1931	325	6,740	7,271,373	22,954,244	51,012,062	28,057,818
	1929	363	7,910	8,921,668	36,004,844	71,607,119	35,602,275
	1927	335	7,310	8,371,278	30,783,598	60,623,497	29,859,859
	1925	303	6,450	6,837,328	26,813,846	58,265,650	31,471,810
	1923	286	5,868	6,308,521	24,275,660	47,603,369	23,327,739
	1921	295	4,810	5,280,033	15,077,020	34,946,696	19,869,676
Theatrical scenery and stage equipment.	1931	45	365	649,117	1,218,498	3,002,860	1,784,362
	1929	55	547	992,133	2,098,498	5,507,827	3,409,329
	1927	39	561	1,379,971	2,330,377	5,745,472	3,415,095
	1925	33	391	853,652	1,519,907	3,578,210	2,058,303
	1923	17	210	429,772	634,622	1,625,668	991,045
	1921	18	169	361,302	491,682	1,214,480	722,798
Toys (not including children's wheel goods or sleds), games, and playground equipment.	1931	380	13,231	12,379,612	21,514,744	53,600,779	32,089,635
	1929	476	10,660	17,660,673	29,981,527	74,828,951	44,847,454
	1927	397	14,738	15,543,393	25,805,418	63,955,706	38,150,288
	1925	352	13,557	13,785,048	22,179,472	55,733,760	33,554,294
	1923	411	14,484	13,900,548	23,829,329	56,066,432	32,237,103
	1921	302	9,448	8,953,034	14,508,517	35,491,345	20,922,828
Umbrellas, parasols, and canes.	1931	93	1,852	1,610,627	5,135,967	9,114,759	3,678,798
	1929	141	2,855	2,768,410	10,907,373	17,994,376	7,087,003
	1927	164	3,308	3,411,261	14,020,984	23,156,400	9,135,416
	1925	176	3,731	3,696,014	16,504,328	27,299,431	10,705,103
	1923	187	3,776	3,738,831	17,999,629	28,395,233	10,895,604
	1921	154	3,149	3,120,240	16,888,759	26,007,762	9,119,003
Window shades and fixtures	1931	448	3,119	3,313,322	11,198,002	20,561,734	9,363,722
	1929	482	4,708	5,623,588	19,785,350	36,964,694	17,179,344
	1927	386	4,733	5,855,781	21,065,474	37,081,937	16,016,463
	1925	336	5,176	6,207,820	25,029,474	41,657,681	16,628,207
	1923	305	5,957	6,825,750	29,521,217	47,040,082	15,118,865
	1921	242	3,781	4,421,041	17,887,660	29,047,761	11,760,101
All other industries ¹² -----	1923	5	633	1,013,469	13,636,334	15,526,266	1,889,932
	1921	16	1,506	2,076,812	9,885,981	16,245,323	6,859,342

¹ Value of products less cost of materials, containers, fuel, and purchased electric energy. See sec. 20, p. 11.

² The totals for 1929 and earlier years for the group as a whole and for the Other Industries subgroup have been revised for comparison with 1931 by deducting the figures for Whips, formerly a separate industry classification in Group 16 but now included in Saddlery, Harness, and Whips in Group 9. Revisions in the totals for years prior to 1931 for the Musical Instruments subgroup and further revisions in those for the Other Industries subgroup are accounted for by the transfer of the figures for the Phonographs industry from the former subgroup to the latter. The manufacture of phonographs, formerly classified as a separate industry in Group 16, is now included in the Radio Apparatus and Phonographs industry in Group 13.

³ Revised to include amount of internal-revenue tax; revision not carried into aggregate for group. See "Inclusion of internal-revenue tax in cost of materials and value of products," p. 1160.

⁴ Revised; revision carried into total for subgroup but not into aggregate for group.

⁵ No comparable figures available. See "Inclusion of internal-revenue tax in cost of materials and value of products," p. 1160.

⁶ At censuses prior to that for 1929 the manufacture of carbon paper and inked ribbons was included in the Typewriters and Supplies industry, in Group 13. No comparable figures for years prior to 1927 are available.

⁷ Abandoned as a separate classification at the census for 1931. Manufacturers formerly assigned to this industry are now classified, according to the character of their principal products, in the following named industries: "Flavoring Extracts and Flavoring Syrups" (Group 1); "Planing-Mill Products (Including General Millwork), Not Made in Planing Mills Connected with Sawmills" (Group 3); "Sheet-Metal Work, Not Specifically Classified" (Group 12); "Tin Cans and Other Tinware Not Elsewhere Classified" (Group 11); "Wood Turned and Shaped and Other Wooden Goods, Not Elsewhere Classified" (Group 3).

⁸ Data for dental laboratories were included at censuses prior to that for 1929. The figures for 1927 as here presented have been adjusted for comparison with those for 1929 and 1931. No comparable figures for earlier years are available.

⁹ No comparable figures for earlier years are available.

¹⁰ Formerly "Fancy and Miscellaneous Articles, Not Elsewhere Classified." The figures for 1929 and prior years have been adjusted to include statistics for "Ivory, Shell, and Bone Work, Not Including Buttons, Combs, or Hairpins," which was abandoned as a separate classification at the census for 1931.

¹¹ Abandoned as a manufacturing industry at the census for 1931. See paragraph No. (2), p. 1075.

¹² Abandoned as a separate classification at the census for 1931; combined with "Emery Wheels and Other Abrasive and Polishing Appliances" and "Hones, Whetstones, and Similar Products" (Group 10) under new title "Abrasive Wheels, Stones, Paper, and Cloth, and Related Products," in Group 10.

¹³ At the censuses for 1925 and subsequent years it was possible to present statistics for every industry covered by the census classifications, but for 1923 and 1921 it was necessary to combine the figures for certain unimportant industries in order to avoid disclosing data for individual establishments.

ARTIFICIAL AND PRESERVED FLOWERS AND PLANTS

Description of the industry.—The establishments in this industry are engaged primarily in the manufacture of artificial flowers, leaves, buds, fruits, palms, grasses, vines, and other plants; the preservation of natural flowers and plants; and the preservation of stems and other parts for use in the manufacture of artificial flowers. The principal materials used in the manufacture of artificial flowers, etc., are textiles, wax, and paper.

SUMMARY FOR THE UNITED STATES, 1909 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1910 and prior years but not for 1921 and subsequent years. See sec. 34, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	158	2,348	\$2,139,643	\$3,415,284	\$9,035,476	\$5,620,162
1929.....	191	3,216	3,217,642	5,527,451	14,425,420	8,897,909
1927.....	190	4,715	5,050,438	7,888,833	19,576,337	11,687,504
1925.....	187	4,305	4,286,651	7,264,858	17,823,841	10,568,983
1923.....	223	4,696	4,501,701	8,692,238	10,649,862	10,957,024
1921.....	201	3,883	3,820,652	5,849,789	14,188,221	8,338,432
1919.....	224	4,138	3,740,911	7,004,646	16,143,165	9,138,519
1914.....	217	4,808	1,990,768	3,206,868	7,614,049	4,407,181
1909.....	225	4,835	1,740,283	4,617,664	9,041,447	4,423,783
Percent of increase or decrease						
(-):						
1929-31.....	-17.3	-27.0	-33.5	-38.2	-37.4	-36.8
1927-29.....	0.5	-31.8	-36.3	-29.9	-26.3	-23.9
1925-27.....	1.6	9.5	17.8	8.6	9.8	10.7
1923-25.....	-16.1	-8.3	-4.8	-16.4	-9.3	-3.6
1921-23.....	10.9	20.9	17.8	48.6	38.5	31.4
1919-21.....	-10.3	-6.2	2.1	-16.5	-12.1	-8.8
1921-31.....	-21.4	-39.5	-44.0	-41.6	-36.3	-32.6
1919-29.....	-14.7	-22.3	-14.0	-21.1	-10.6	-2.6
1909-19.....	-0.4	-14.4	115.0	51.7	78.5	106.6
<i>States, 1931</i>						
California.....	3	22	\$19,615	\$42,083	\$98,830	\$56,747
Illinois.....	17	303	254,573	496,768	1,415,276	918,508
Missouri.....	5	61	62,241	111,635	253,162	141,527
New Jersey.....	5	90	91,426	66,111	223,971	157,860
New York.....	101	1,140	1,224,497	1,944,702	5,022,727	3,078,025
Ohio.....	5	27	19,360	74,051	191,212	117,161
Pennsylvania.....	5	149	118,402	214,683	510,252	295,610
Other States ³	17	556	349,529	465,251	1,320,005	854,754

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

² Includes values of miscellaneous products, not normally belonging to the industry, made as secondary products by establishments engaged primarily in the manufacture of artificial and preserved flowers and plants, as follows: For 1931, \$357,631; 1929, \$100,542; 1927, \$242,742; 1925, \$310,233; corresponding amounts for earlier years not available. Does not include following values of artificial and preserved flowers and plants reported by establishments engaged primarily in other lines of manufacture: For 1931, \$98,686; 1929, \$304,952; 1927, \$185,160; 1925, \$368,727; corresponding amounts for earlier years not available.

³ Value of products less cost of materials, containers, fuel, and purchased electric energy. See sec. 20, p. 11.

⁴ No comparable figures for prior years.

⁵ Colorado, 1 establishment; Connecticut, 1; Florida, 3; Indiana, 4; Maryland, 1; Massachusetts, 2; Michigan, 1; North Carolina, 1; Rhode Island, 1; Texas, 1; Wisconsin, 1.

ARTISTS' MATERIALS

Description of the industry.—The principal products of the establishments classified in this industry are canvas board, prepared canvases or frames, air brushes for portrait work, air compressors for art work, easels, drawing tables and boards, palettes, sketch boxes, and pantographs; oil colors, wax, tailors' chalk, crayons, and crayon pencils; gold and bronze mixtures, powders, paints, and size; gold and aluminum enamel and paint for china painting; pyrography goods, including platinum points; drawing inks; and drafting materials.

SUMMARY FOR THE UNITED STATES, 1899 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	65	838	\$890,840	\$2,130,852	\$5,822,697	\$3,685,745
1929.....	68	1,167	1,428,728	4,155,317	9,459,565	5,304,248
1927.....	61	1,211	1,429,983	3,771,503	8,204,521	4,433,018
1925.....	62	1,317	1,567,746	3,802,420	8,320,776	4,518,356
1923.....	61	1,411	1,747,175	4,355,150	8,638,744	4,283,594
1921.....	55	1,008	1,198,814	3,989,642	6,959,766	2,970,124
1919.....	58	926	895,764	2,087,226	5,507,656	2,820,430
1914.....	44	604	314,504	2,064,716	3,237,729	1,173,013
1909.....	46	658	307,040	1,360,490	2,339,935	979,445
1904.....	28	274	130,658	687,283	1,139,353	452,070
1899.....	21	200	79,267	249,107	497,046	247,939
Percent of increase or decrease (—):						
1929-31.....	(4)	-28.2	-37.6	-48.6	-38.4	-30.5
1927-29.....	(4)	-3.6	-0.1	10.2	15.3	19.7
1925-27.....	(4)	-8.0	-8.8	-8	-1.4	-1.9
1923-25.....	(4)	-6.7	-10.3	-12.7	-2.7	5.5
1921-23.....	(4)	40.0	45.7	9.2	24.1	44.2
1919-21.....	(4)	8.9	33.8	48.6	26.4	5.3
1921-31.....	(4)	-16.9	-25.7	-46.4	-16.3	24.1
1919-29.....	(4)	26.0	59.5	54.6	71.8	88.1
1909-19.....	(4)	40.7	191.7	97.5	135.4	188.0
1899-1909.....	(4)	229.0	287.3	446.1	370.8	295.0
<i>States, 1931</i>						
Illinois.....	9	23	\$31,236	\$87,433	\$177,113	\$89,680
New Jersey.....	8	70	81,111	585,781	782,056	166,275
New York.....	22	149	181,944	407,103	1,245,922	535,819
Pennsylvania.....	9	294	310,031	509,748	1,647,554	1,187,806
Other States ³	17	302	286,518	546,787	1,969,952	1,423,165

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

² Includes following values of miscellaneous products not normally belonging to this industry made as secondary products by establishments engaged primarily in the manufacture of artists' materials: 1931, \$112,417; 1929, \$720,298; 1927, \$777,998; 1925, \$244,370. No corresponding figures for earlier years. Does not include following values of artists' materials reported as secondary products by establishments engaged primarily in other lines of manufacture: 1931, \$416,024; 1929, \$721,710; 1927, \$1,275,087; 1925, \$3,657,497; 1923, \$166,651; 1921, \$100,277; 1919, \$999,633. No corresponding figures for earlier years.

³ Value of products less cost of materials, containers, fuel, and purchased electric energy. See sec. 20, p. 11.

⁴ Percent not computed where base is less than 100.

⁵ California, 2 establishments; Connecticut, 1; Georgia, 1; Indiana, 1; Massachusetts, 5; Missouri, 1; Nebraska, 1; Ohio, 5.

BROOMS

[A preliminary report for this industry was issued under date of Nov. 12, 1932]

Description of the industry.—The establishments classified in the broom industry are engaged primarily in the manufacture of household brooms, whisk brooms, etc., made of broom corn and of bassine, and street-sweeping brooms made of heavier material.

Manufacture of brooms in institutions for the blind.—Statistics on the production of brooms in institutions for the blind are given in table 3, but no data for such institutions are included in any of the other tables.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1909 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States"—in particular, Maryland—are, however, more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	334	4,086	\$3,325,998	\$6,264,020	\$13,134,907	\$6,870,887
1929.....	407	4,542	4,169,087	9,647,688	19,166,353	9,518,665
1927.....	394	4,450	4,274,688	9,175,710	18,444,912	9,269,202
1925.....	421	4,725	4,653,656	11,213,381	21,714,194	10,500,613
1923.....	444	4,780	4,481,645	14,932,827	26,261,824	11,329,007
1921.....	459	4,302	3,871,895	10,417,147	18,188,376	7,771,229
1919.....	1,034	6,313	5,708,885	17,365,109	30,205,267	12,840,158
1914.....	868	5,642	2,624,109	7,883,613	14,084,959	6,201,846
1909.....	898	5,199	2,363,088	8,391,333	14,431,593	6,040,260
<i>Percent of increase or decrease (—):</i>						
1929-31.....	-17.9	-10.0	-20.2	-35.1	-31.5	-27.8
1927-29.....	3.3	2.1	-2.5	5.1	3.9	2.7
1925-27.....	-6.4	-5.8	-8.1	-18.2	-15.1	-11.7
1923-25.....	-5.2	-1	3.8	-24.9	-17.3	-7.8
1921-23.....	-3.3	9.9	15.7	43.3	44.4	45.8
1919-21.....	-55.6	-31.9	-32.2	-40.0	-39.8	-39.5
1921-31.....	-27.2	-5.0	-14.1	-39.9	-27.8	-11.6
1919-29.....	-60.6	-28.1	-27.0	-44.4	-36.5	-25.9
1909-19.....	15.1	21.4	141.6	106.9	109.3	112.6
<i>States, 1931</i>						
Alabama.....	8	82	\$51,384	\$105,023	\$243,117	\$138,094
Arkansas.....	4	34	30,295	66,648	135,727	69,079
California.....	16	120	130,326	230,350	483,145	252,795
Florida.....	6	43	24,884	55,263	117,570	62,307
Georgia.....	5	46	23,271	56,472	104,873	48,401
Illinois.....	25	312	269,318	560,949	1,017,728	455,779
Indiana.....	11	240	165,421	313,411	716,188	402,777
Iowa.....	15	125	121,043	204,110	458,471	254,361
Kansas.....	8	65	63,726	109,700	227,562	117,862
Kentucky.....	10	324	208,450	428,740	819,688	390,948
Louisiana.....	7	59	57,718	75,816	152,027	76,211
Massachusetts.....	8	32	34,169	71,682	142,816	71,134
Michigan.....	7	66	72,534	86,886	221,021	134,135
Minnesota.....	10	57	60,706	91,143	214,994	123,851
Missouri.....	11	79	66,193	98,155	220,883	122,728

See footnotes at end of table.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1909 TO 1931, AND FOR STATES 1931—Continued

[See note at head of table]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>States, 1931—Continued</i>						
New York.....	33	464	\$400,967	\$657,351	\$1,466,299	\$808,94
North Carolina.....	6	59	32,302	85,287	171,704	86,41
Ohio.....	16	155	139,550	291,000	578,792	287,79
Oklahoma.....	10	39	34,276	49,075	107,379	58,30
Oregon.....	4	45	41,543	69,645	139,325	69,68
Pennsylvania.....	29	278	257,014	511,233	1,089,645	578,41
Texas.....	25	247	183,257	343,491	747,148	403,65
Utah.....	3	9	9,938	21,822	40,182	18,30
Virginia.....	4	38	22,029	50,188	93,878	43,69
Washington.....	5	31	32,880	52,148	107,926	55,77
Wisconsin.....	9	49	46,194	61,357	162,939	101,58
Other States ³	39	986	\$ 748,610	1,517,075	3,153,880	1,630,80

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 10, p. 9.² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.³ Revised.⁴ Data for brooms not reported separately prior to 1909.⁵ Arizona, 2 establishments; Colorado, 3; Connecticut, 1; Maine, 2; Maryland, 10; Mississippi, 2; Montana, 1; Nebraska, 3; New Jersey, 4; North Dakota, 1; Rhode Island, 2; South Carolina, 1; South Dakota, 1; Tennessee, 4; West Virginia, 2.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8.]

	Average number employed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States													
1931.....	4,086	4,073	4,155	4,183	4,203	4,139	4,062	3,987	3,963	4,021	4,114	4,158	4,033
1929.....	4,542	4,576	4,627	4,656	4,606	4,543	4,453	4,416	4,448	4,404	4,592	4,611	4,568
1925.....	4,726	4,848	4,949	4,940	4,808	4,721	4,561	4,429	4,593	4,757	4,718	4,714	4,598
1919.....	6,313	6,321	6,187	5,906	6,009	5,986	5,994	6,054	6,298	6,512	6,713	6,840	6,936
1914.....	5,642	5,767	5,766	5,799	5,678	5,568	5,450	5,372	5,458	5,570	5,687	5,780	5,809
1909.....	5,199	5,322	5,372	5,313	5,231	5,073	5,035	4,778	4,913	5,172	5,305	5,431	5,454
States, 1931													
Alabama.....	82	74	82	83	84	84	85	78	78	79	88	89	89
Arkansas.....	34	38	33	32	32	32	32	34	35	33	36	36	35
California.....	120	125	123	118	119	121	119	117	116	121	120	122	121
Florida.....	43	41	41	44	44	45	44	43	41	41	43	42	42
Georgia.....	45	43	43	44	44	45	45	44	45	46	46	48	46
Illinois.....	312	327	338	339	332	322	308	307	315	248	261	326	324
Indiana.....	240	238	244	245	235	232	219	235	228	240	266	260	233
Iowa.....	125	125	126	132	133	132	128	123	126	120	122	120	118
Kansas.....	68	56	68	70	74	67	83	67	47	67	72	73	71
Kentucky.....	324	311	323	325	330	329	324	312	315	333	335	328	319
Louisiana.....	59	58	58	59	58	58	58	60	60	61	61	60	58
Massachusetts.....	32	33	34	35	35	34	30	29	32	34	31	32	29
Michigan.....	66	74	71	75	69	72	67	68	62	65	66	57	58
Minnesota.....	57	62	62	62	62	58	55	53	53	54	57	58	57
Missouri.....	79	66	85	78	87	81	74	67	69	79	95	97	85

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931—Continued

[See note at head of table]

	A ver- age num- ber em- ployed during year	NUMBER REPORTED FOR—											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>States, 1931—Con.</i>													
New York.....	404	482	482	483	483	470	460	446	445	455	457	461	445
North Carolina.....	59	62	62	62	61	60	60	60	57	56	57	57	57
Ohio.....	155	152	154	151	171	161	143	120	145	146	170	172	170
Oklahoma.....	39	40	40	41	36	40	39	36	31	42	44	43	39
Oregon.....	45	41	41	43	45	44	45	53	45	43	49	43	43
Pennsylvania.....	278	277	277	274	273	274	274	273	272	280	291	288	285
Texas.....	247	254	254	255	252	245	242	224	231	261	248	250	247
Utah.....	9	10	10	10	10	11	9	9	9	8	9	9	8
Virginia.....	38	40	42	41	43	40	36	38	38	39	35	36	28
Washington.....	31	35	35	35	33	31	27	30	29	30	30	26	28
Wisconsin.....	49	56	55	56	53	54	50	21	52	48	46	48	46

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1931 AND 1929

[The figures for 1931 represent production; those for 1929 refer to sales (shipments or deliveries) by manufacturers. See sec. 16, p. 9]

Kind	1931		1929	
1. Broom industry, all products, total value.....	\$13,134,907		\$19,166,353	
2. Brooms made in the broom industry.....	12,700,247		18,704,571	
3. Other products (not normally belonging to the industry).....	434,660		461,782	
4. Brooms made as secondary products in other industries.....	386,618		621,987	
5. Brooms made in institutions for the blind.....	854,882		1,507,885	
Brooms, all industries, aggregate value (sum of 2, 4, and 5).....	13,941,747		20,834,443	
MADE IN COMMERCIAL ESTABLISHMENTS AND INSTITUTIONS FOR THE BLIND				
	1931		1929	
	Quantity	Value	Quantity	Value
Aggregate.....	Dozens	\$13,941,747	Dozens	\$20,834,443
Household brooms, total.....	2,947,400	11,514,921	3,347,839	16,932,817
Made of broomcorn.....	2,908,955	11,311,533	3,306,125	16,658,941
Made of bassine.....	38,445	203,388	41,714	273,876
Whisk brooms, total.....	530,834	936,009	553,133	1,208,083
Made of broomcorn.....	435,324	824,032	468,371	1,017,651
Made of other materials.....	95,510	111,977	84,762	190,432
Toy and hearth brooms, made of broomcorn.....	90,221	110,971	86,026	125,275
Industrial brooms, total.....	231,518	1,203,922	331,547	1,955,602
Made of broomcorn.....	133,311	651,381	173,759	1,000,147
Made of broomcorn and other materials (mixed).....	56,844	296,588	78,059	450,231
Made of bass or bassine, or both.....	24,279	174,893	39,566	303,088
Made of bamboo, rattan, or reed, or mixtures thereof.....	17,084	81,060	40,163	202,136
Other brooms (except street-sweeping).....	(1)	140,929	5,299	572,272
Street-sweeping-machine brooms.....	Number 1,688	34,995	Number 1,800	40,394

¹ No data.

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1931 AND 1929—Continued

[See note at head of table]

	MADE IN COMMERCIAL ESTABLISHMENTS			
	1931		1929	
	Quantity	Value	Quantity	Value
	<i>Dozens</i>		<i>Dozens</i>	
Total.....		\$13,086,865		\$19,326,55
Household brooms, total.....	2,788,108	10,906,375	3,132,620	15,899,22
Made of broomcorn.....	2,749,663	10,702,987	3,000,906	15,625,34
Made of bassine.....	38,445	203,388	41,714	273,87
Whisk brooms, total.....	518,093	915,613	535,170	1,171,92
Made of broomcorn.....	427,583	809,386	450,708	982,38
Made of other materials.....	90,510	106,227	84,462	189,53
Toy and hearth brooms made of broomcorn.....	70,638	89,494	67,991	102,28
Industrial brooms, total.....	196,069	999,459	263,964	1,540,46
Made of broomcorn.....	112,452	533,537	127,149	721,27
Made of broomcorn and other materials (mixed).....	44,582	221,287	63,411	351,92
Made of bass or bassine, or both.....	24,146	173,984	39,366	301,68
Made of bamboo, rattan, or reed, or mixtures thereof.....	14,889	70,651	34,038	165,57
Other brooms (except street-sweeping).....	(¹)	140,929	5,299	572,27
Street-sweeping-machine brooms.....	Number 1,688	34,995	Number 1,800	40,39
	MADE IN INSTITUTIONS FOR THE BLIND			
	<i>Dozens</i>		<i>Dozens</i>	
Total.....		\$854,882		\$1,507,581
Household brooms, made of broomcorn.....	159,292	608,546	215,219	1,033,592
Whisk brooms, total.....	12,741	20,396	17,963	36,163
Made of broomcorn.....	7,741	14,646	17,663	35,263
Made of other materials.....	5,000	5,750	300	900
Toy and hearth brooms, made of broomcorn.....	19,583	21,477	18,035	22,990
Industrial brooms, total.....	35,449	204,463	67,583	415,140
Made of broomcorn.....	20,859	117,844	46,610	278,874
Made of broomcorn and other materials (mixed).....	12,262	75,301	14,648	98,304
Made of bass or bassine, or both.....	133	909	200	1,400
Made of bamboo, rattan, or reed, or mixtures thereof.....	2,195	10,400	6,125	36,562

¹ No data.

TABLE 4.—PRINCIPAL PRODUCTS OF COMMERCIAL ESTABLISHMENTS, BY KIND, QUANTITY, AND VALUE, BY STATES: 1931

[This table gives statistics for each State for which it is possible to publish separate figures without disclosing, exactly or approximately, the output of individual establishments. In many cases, however, certain of the "Other States" outranked some of the States for which separate figures are given]

	Number of establishments	Number of dozens	Value		Number of establishments	Number of dozens	Value
Household brooms, total.....	336	2,788,108	\$10,906,375	Whisk brooms, total.....	144	518,093	\$915,613
Alabama.....	7	55,721	192,541	California.....	9	5,642	8,389
Arkansas.....	4	59,081	132,924	Indiana.....	5	6,077	11,202
California.....	17	106,431	451,205	Iowa.....	6	680	1,289
Florida.....	5	21,210	101,393	Kentucky.....	6	8,948	9,822
Georgia.....	5	28,315	96,570	Minnesota.....	9	7,893	9,641
Illinois.....	26	206,299	936,620	Missouri.....	8	14,228	18,942
Indiana.....	8	76,787	324,440	New York.....	13	142,522	298,496
Iowa.....	14	98,246	424,825	Texas.....	7	1,478	2,970
Kansas.....	7	48,303	208,227	Wisconsin.....	8	8,629	15,897
Kentucky.....	10	263,747	785,357	Other States.....	73	321,996	538,965
Louisiana.....	7	38,905	139,637	Industrial brooms, total.....	161	196,039	999,459
Massachusetts.....	9	30,023	119,013	California.....	6	3,705	21,283
Michigan.....	9	47,723	218,440	Illinois.....	6	3,228	10,979
Minnesota.....	10	44,058	185,135	Indiana.....	8	44,047	197,466
Missouri.....	11	51,441	192,493	Massachusetts.....	7	3,627	17,337
New York.....	34	221,175	953,321	Michigan.....	4	1,791	10,075
North Carolina.....	6	57,742	163,526	Minnesota.....	9	3,366	18,683
Ohio.....	16	101,981	380,510	Missouri.....	3	1,015	5,817
Oklahoma.....	10	30,228	101,625	New York.....	15	34,608	193,632
Oregon.....	4	26,451	125,802	Ohio.....	9	11,649	52,177
Pennsylvania.....	28	158,746	779,963	Oklahoma.....	6	740	4,060
Texas.....	25	170,354	653,260	Oregon.....	3	1,329	8,032
Utah.....	3	8,508	34,749	Pennsylvania.....	16	16,623	80,949
Virginia.....	4	21,654	86,478	Texas.....	11	5,274	29,645
Washington.....	5	20,002	91,474	Washington.....	4	1,104	7,730
Wisconsin.....	10	30,560	133,693	Wisconsin.....	7	4,191	20,190
Other States.....	42	761,327	2,893,124	Other States.....	47	59,769	321,404

BRUSHES, OTHER THAN RUBBER

[A preliminary report for this industry was issued under date of Aug. 20, 1932]

Description of the industry.—The establishments classified in the brush industry are engaged primarily in the manufacture of brushes, other than rubber, such as tooth, toilet, paint and varnish, household, and industrial brushes.

TABLE 1.—SUMMARY FOR THE UNITED STATES, 1909 TO 1931, AND FOR STATES, 1931

[Data for establishments with products under \$5,000 in value are included for 1919 and prior years but not for 1921 and subsequent years. See sec. 3d, p. 4. Statistics are given for all States for which separate figures can be published without disclosing, exactly or approximately, the data reported by individual establishments. Certain of the "Other States," however, are more important in the industry than some of the States shown separately]

	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²
<i>United States</i>						
1931.....	264	5,891	\$5,991,850	\$14,227,575	\$30,827,087	\$16,569,512
1929.....	303	7,261	7,962,538	21,688,253	45,549,270	23,861,017
1927.....	302	7,673	8,244,032	22,553,088	47,844,124	25,291,065
1925.....	302	7,836	8,452,209	22,021,444	45,824,215	23,602,771
1923.....	306	8,719	9,208,272	25,569,661	50,511,239	24,041,373
1921.....	277	6,460	6,415,340	18,664,652	35,544,514	16,879,562
1919.....	379	7,968	7,113,201	19,598,133	39,005,607	19,407,174
1914.....	359	7,213	3,461,271	9,326,655	17,894,476	8,567,821
1909.....	384	6,954	3,041,145	7,186,937	14,694,003	7,507,055
Percent of increase or decrease (—):						
1929-31.....	-12.9	-18.9	-24.7	-34.4	-32.3	-30.4
1927-29.....	.3	-5.4	-3.4	-3.8	-4.8	-5.7
1925-27.....		-2.1	-2.5	2.4	4.4	3.3
1923-25.....	-1.3	-10.1	-8.2	-13.9	-9.3	-4.6
1921-23.....	10.5	35.0	43.5	37.0	42.1	47.8
1919-21.....	-26.9	-18.9	-9.8	-4.8	-8.9	-13.0
1921-31.....	-4.7	-8.8	-6.6	-23.8	-13.3	-1.7
1919-29.....	-20.1	-8.9	11.9	10.7	16.8	22.9
1909-19.....	-1.3	14.6	133.9	172.7	165.5	153.5
<i>States, 1931</i>						
California.....	9	91	\$105,346	\$250,618	\$586,819	\$336,201
Colorado.....	3	7	9,104	10,850	27,107	19,237
Delaware.....	3	45	20,677	22,839	54,339	31,506
Illinois.....	25	251	268,339	591,403	1,292,485	700,962
Indiana.....	5	137	119,435	347,499	811,878	461,372
Maryland.....	8	724	561,190	1,824,358	2,825,918	1,501,560
Massachusetts.....	21	762	837,370	1,270,748	4,854,275	3,583,537
Michigan.....	10	97	122,929	362,101	657,417	295,316
New Jersey.....	22	496	501,584	983,017	2,480,909	1,467,592
New York.....	61	1,567	1,649,073	4,869,539	8,174,223	3,864,690
North Carolina.....	3	26	15,751	25,541	53,754	28,213
Ohio.....	17	387	457,689	1,004,180	2,418,666	1,411,485
Pennsylvania.....	23	238	270,486	551,113	1,252,490	701,377
Rhode Island.....	6	34	32,263	38,792	117,475	78,663
Washington.....	4	62	59,357	86,097	214,223	128,138
Wisconsin.....	8	114	87,100	117,104	330,542	210,238
Other States ³	36	853	874,147	2,871,686	4,098,861	1,707,173

¹ For 1929, manufacturers' sales (shipments or deliveries); for other years, production. See sec. 16, p. 9.

² Value of products less cost of materials, fuel, and purchased electric energy. See sec. 20, p. 11.

³ Data for brushes not reported separately prior to 1909.

⁴ Connecticut, 7 establishments; Florida, 2; Georgia, 1; Iowa, 1; Kansas, 2; Kentucky, 1; Maine, 2; Minnesota, 4; Missouri, 3; Nebraska, 3; New Hampshire, 2; Oregon, 3; Vermont, 4; Virginia, 1.

TABLE 2.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1931, 1929, 1925, 1919, 1914, AND 1909, AND FOR STATES, 1931

[This table presents statistics for only those States for which figures can be given without disclosing, exactly or approximately, the data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. See sec. 13, p. 8]

NUMBER REPORTED FOR—													
Average number employed during year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
United States													
1931.....	5,891	5,850	5,999	6,065	6,062	6,049	5,913	5,797	5,844	5,943	5,904	5,781	5,499
1929.....	7,261	8,965	7,235	7,270	7,296	7,239	7,150	7,185	7,360	7,505	7,635	7,293	7,001
1925.....	7,836	7,927	8,013	8,095	7,977	7,780	7,531	7,448	7,429	7,596	7,912	8,185	8,155
1919.....	7,968	8,080	7,794	7,755	7,542	7,439	7,501	7,710	8,005	8,045	8,368	8,567	8,748
1914.....	7,213	7,446	7,441	7,440	7,339	7,222	7,102	7,114	7,043	7,082	7,298	7,066	6,963
1909.....	6,954	6,890	6,989	7,014	6,941	6,938	6,742	6,510	6,646	6,903	7,190	7,360	7,338
States, 1931													
California.....	91	94	92	92	92	96	93	88	91	89	90	89	85
Colorado.....	7	7	7	7	7	7	6	7	7	7	7	6	6
Delaware.....	45	38	53	60	55	58	46	42	41	44	39	28	31
Illinois.....	251	217	245	258	260	264	259	253	254	245	286	259	233
Indiana.....	137	132	132	136	148	150	152	140	133	141	132	131	114
Maryland.....	724	737	734	727	729	709	706	716	721	733	730	726	722
Massachusetts.....	762	743	775	785	780	782	798	752	769	780	741	730	704
Michigan.....	97	106	107	112	103	100	93	96	99	97	93	86	71
New Jersey.....	496	522	529	523	513	495	481	497	490	477	494	473	461
New York.....	1,567	1,502	1,587	1,623	1,633	1,640	1,564	1,505	1,542	1,626	1,606	1,584	1,396
North Carolina.....	26	26	26	26	26	26	26	26	26	26	26	26	26
Ohio.....	387	391	394	391	394	397	403	394	373	379	386	372	363
Pennsylvania.....	238	247	239	238	241	249	247	242	238	235	232	226	223
Rhode Island.....	34	36	33	34	33	36	32	32	33	35	36	34	34
Washington.....	62	63	62	64	69	66	60	56	58	56	67	61	62
Wisconsin.....	114	119	123	120	120	115	114	110	114	111	106	105	106

TABLE 3.—PRODUCTS, BY KIND AND VALUE, FOR THE UNITED STATES, 1925 TO 1931

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for other years represent production. See sec. 16, p. 9]

KIND	1931	1929	1927	1925
1. "Brushes, Other Than Rubber" industry, all products, total value.....	\$30,827,087	\$45,549,270	\$47,844,124	\$45,824,215
2. Brushes made in the Brush industry.....	29,103,253	43,203,422	43,092,470	42,806,058
3. Other products (not normally belonging to the industry).....	1,663,611	2,302,593	4,151,654	3,018,157
4. Receipts for contract and custom work.....	60,223	43,255	(¹)	(¹)
5. Brushes made as secondary products in other industries.....	1,516,516	2,029,325	2,628,914	2,178,671
Brushes, all industries, aggregate value (sum of 2 and 5).....	30,619,769	45,232,747	46,321,384	44,984,729
Toothbrushes.....	4,952,253	5,714,727	5,100,000	7,426,895
Other toilet brushes.....	4,195,792	5,129,097	5,385,268	
Paint and varnish brushes (including artists' brushes).....	10,466,164	16,705,771	17,451,786	16,746,455
Household brushes.....	3,918,957	7,394,686	6,330,427	5,241,090
Industrial brushes, total.....	4,162,016	6,228,375	7,574,343	5,797,670
Rotary, power.....	1,763,883	3,188,559	(²)	(²)
Other, including push brooms.....	2,398,133	3,039,816	(²)	(²)
Brushes not reported by kind.....	2,924,587	4,060,091	4,490,560	9,771,709

¹ Not reported separately.

² Not called for on schedule.

TABLE 4.—PRODUCTS, BY KIND AND VALUE, BY STATES: 1931

[This table gives statistics for each State for which it is possible to publish separate figures without disclosing, exactly or approximately, the output of individual establishments. In many cases, however, certain of the "Other States" outranked some of the States for which separate figures are given]

KIND	Number of establishments	Value	KIND	Number of establishments	Value
Tooth brushes ¹	20	\$4,952,253	Household brushes—Contd.		
Other toilet brushes, total.....	56	4,195,792	Ohio.....	4	\$35,40
Illinois.....	3	28,425	Pennsylvania.....	8	206,48
Massachusetts.....	7	376,288	Wisconsin.....	4	18,65
New York.....	23	1,947,744	Other States.....	36	1,811,61
Other States.....	23	1,843,335	Industrial brushes, total.....	147	4,162,01
Paint and varnish brushes, total.....	80	10,466,164	California.....	10	235,11
Maryland.....	5	1,328,452	Connecticut.....	4	67,87
Massachusetts.....	3	1,081,720	Illinois.....	16	140,67
New Jersey.....	6	1,433,160	Indiana.....	7	476,53
New York.....	16	3,634,405	Massachusetts.....	13	282,25
Pennsylvania.....	10	876,819	Missouri.....	3	48,00
Other States.....	40	2,111,599	Nebraska.....	4	21,30
Household brushes, total.....	96	3,918,957	New Jersey.....	12	290,36
Illinois.....	14	629,709	New York.....	17	754,16
Massachusetts.....	8	323,058	Ohio.....	18	752,19
New Jersey.....	5	285,290	Pennsylvania.....	14	174,20
New York.....	17	608,754	Rhode Island.....	5	93,92
			Wisconsin.....	7	292,89
			Other States.....	17	532,52

¹ It is necessary to withhold from publication the figures for the leading States in the production of tooth brushes in order to avoid disclosing approximations of the output of individual establishments.